



# Quebec Automobiles

## Factual Record Regarding Submission SEM-04-007

Prepared in accordance with Article 15 of the  
*North American Agreement on Environmental Cooperation*

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**Factual Record for Submission**  
**SEM-04-007 (*Quebec Automobiles*)**

Prepared in accordance with Article 15(6)  
of the *North American Agreement on Environmental Cooperation*

11 September 2012



# Table of Contents

<b>1. Executive Summary</b>	<b>1</b>
<b>2. Summary of the Submission</b>	<b>9</b>
2.1 Assertions on the alleged failure to effectively enforce laws on vehicle emissions	10
2.2 Assertion as to the alleged harm incurred due to non-enforcement of the laws at issue and the potential benefits of an I/M Program	12
<b>3. Summary of the Response</b>	<b>13</b>
3.1 Historical development of issues surrounding the reduction of emissions from automobiles in use	14
3.2 The Party's enforcement of the EQA and the RQA	16
3.3 The Party's educational and administrative measures	17
<b>4. Scope of the Factual Record</b>	<b>18</b>
<b>5. Information-gathering process</b>	<b>19</b>
<b>6. Factual and scientific context for motor vehicle emissions</b>	<b>21</b>
6.1 Transportation-related air pollution in Canada and Quebec	21
6.2 Air quality in Canada and Quebec	27
6.3 Health effects of motor vehicle emissions in Canada and Quebec	28
6.4 Emission control and measurement technologies	30
6.5 The different types of emission reduction measures	32
<b>7. Emission reduction commitments and objectives for the transportation sector in Canada and Quebec</b>	<b>36</b>
7.1 The division of environment-related powers and the role of the NAAEC in the Canadian federal system	36
7.2 Canada-wide commitments on NO <sub>x</sub> , VOCs, and smog reduction, 1989–2005	38
7.3 Quebec's commitments on NO <sub>x</sub> , VOCs, and smog, 1985–1996	44
7.4 Quebec's commitments on NO <sub>x</sub> , VOCs, and PM, 1996–2001	47
7.5 Quebec's commitments on NO <sub>x</sub> , VOCs, PM, and CO <sub>2</sub> , 2001–2005	49
7.6 Quebec's emission reduction commitments, post-2005	52
<b>8. Legislative and regulatory context for transportation emission reductions in Canada and Quebec</b>	<b>53</b>
8.1 Federal laws on motor vehicles and engines imported or manufactured in Canada and the regulation of fuel	53
8.2 Overview of the EQA, including section 19.1: the right to a healthy environment	55
8.3 Quebec's prohibition of motor vehicle emissions: section 51(a) of the EQA and new GHG regulations	56
8.4 Quebec's requirements concerning the presence of pollution control devices in vehicles: s. 51(b) EQA and s. 96.1 RQA	57
8.5 Quebec's prohibition of the modification of pollution devices in s. 96.2 RQA	58
8.6 Criminal sanctions associated with ss. 96.1 and 96.2 RQA	60

<b>9. Enforcement of the laws at issue</b>	<b>62</b>
9.1 Anti-tampering measures in Quebec and Canada	62
9.2 Quebec's approach to enforcement of its anti-tampering laws	65
9.2.1 Financial resources allocated to enforcement of the laws at issue	65
9.2.2 Criminal prosecution	66
9.2.3 Roadside and repair shop inspections	67
9.2.4 Educational programs and administrative measures	70
9.3 Other Quebec emission reduction measures	70
<b>10. An overview of I/M programs for heavy-duty vehicles in Canada and Quebec</b>	<b>71</b>
10.1 Heavy-duty vehicle I/M programs in Canada	72
10.2 Description of PIEVAL	74
10.3 Quebec's enforcement of PIEVAL since 2006	76
<b>11. Closing Note</b>	<b>81</b>

## FIGURE AND TABLES

Table 1	Total criteria air contaminant emissions in Quebec, 2007	23
Table 2	Total criteria air contaminant emissions from mobile sources in Quebec, 2007	24
Table 3	Quebec emission inventory 1990–2015, prepared by Sierra Research Inc., tonnes/year (t/y)	25
Table 4	Light-duty and heavy-duty vehicle emissions inventory for Quebec, prepared by Sierra Research Inc., tonnes/year (t/y)	26
Figure 1	The Quebec-Windsor Corridor	40
Table 5	Antcil Committee Report – Estimated possible ten-year reduction of NO <sub>x</sub> and VOC emissions in the Quebec part of the QWC corridor for transportation sector initiatives (excluding measures relating to light-duty vehicles, in tonnes/year (t/y)	45
Table 6	Antcil Committee Report – Comparison of possible NO <sub>x</sub> and VOC emission reduction benefits of light-duty vehicle-related initiatives versus other transportation-sector initiatives in the Quebec part of the QWC over a 10-year period (tonnes/year)	46
Table 7	Air 1 Report – Phases I and II of 1990 Smog Management Plan (CCME) – Projected emission reductions to 2010 (NO <sub>x</sub> , VOC, PM, smog)	47
Table 8	Quebec penalties for violations – ss. 96.1 and 96.2 RQA	60
Table 9	Anti-tampering measures for light-duty and heavy-duty vehicles in CIA provinces	63
Table 10	Anti-tampering measures for light-duty and heavy-duty vehicles in other provinces/territories	64
Table 11	Heavy-duty vehicle inspection programs in British Columbia, Ontario and Quebec	73
Table 12	Implementation of PIEVAL and program results for 2006–2008	78
Table 13	Quebec-registered heavy-duty vehicles in 2003 by user type (MDDEP data)	79
Table 14	SAAQ-registered heavy-duty vehicles by user type	80
Table 15	Average non-compliant heavy-duty vehicles on-road in 2003 and 2007	80

## APPENDICES

Appendix 1	Council Resolution 06-07, dated 14 June 2006	83
Appendix 2	Relevant Provisions of the <i>Environment Quality Act</i> and the <i>Regulation Respecting the Quality of the Atmosphere</i>	87
Appendix 3	Secretariat's overall plan to develop a Factual Record, dated 5 July 2006	91
Appendix 4	Request for information from the Secretariat for preparation of a factual record, Submission SEM-04-007 ( <i>Quebec Automobiles</i> ), dated 1 September 2006	95
Appendix 5	Sierra Research, Inc. Report, dated 28 February 2007	99
Appendix 6	Request for supplemental information from the Secretariat, dated 24 July 2008, and response from the Party (Canada/Quebec), dated 22 September 2008 ("2008 Supplemental Information")	117
Appendix 7	Request for supplemental information from the Secretariat, dated 19 December 2008, and response from the Party (Canada/Quebec), dated 12 May 2009 ("2009 Supplemental Information")	129
Appendix 8	Timeline of key events related to the control of emissions and air pollution in Canada, Quebec, and Montreal	137
Appendix 9	Environmental law-related prosecutions and investigations by Quebec	143
Appendix 10	Memorandum, MDDEP Division of Air Quality, dated 27 March 2000	147
Appendix 11	Relevant provisions of the <i>Regulation respecting Environmental Standards for Heavy Vehicles</i>	151
Appendix 12	Supplemental information from the Party (Canada/Quebec), dated 20 May 2011 ("2011 Supplemental Information")	155





## Acronyms and Abbreviations

AEÉ	Quebec Energy Efficiency Agency ( <i>Agence de l'efficacité énergétique</i> )
AQLPA	Quebec Association Against Air Pollution ( <i>Association québécoise de lutte contre la pollution atmosphérique</i> )
ARIITA	<i>Act respecting the Implementation of International Trade Agreements (Quebec)</i> , R.S.Q., c. M-35.2
CEC	Commission for Environmental Cooperation
CEPA	<i>Canadian Environmental Protection Act</i> , L.C. 1999, ch. 33
C <sub>6</sub> H <sub>6</sub>	Benzene
CIA	<i>Canadian Intergovernmental Agreement Regarding the North American Agreement on Environmental Cooperation</i>
CCME	Canadian Council of Ministers of the Environment (14 members)
CMM	Montreal Metropolitan Community ( <i>Communauté métropolitaine de Montréal</i> ) (formerly the MUC)
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CPP	Code of Penal Procedure ( <i>Code de procédure pénale</i> ) (Quebec), R.S.Q., c. C-25.1
CRQ	Quebec Highway Enforcement ( <i>Contrôle routier Québec</i> )
CWS	Canada-wide Standards
EQA	<i>Environment Quality Act (Quebec)</i> , R.S.Q., c. Q-2
GHG	Greenhouse gases
GVWR	Gross vehicle weight rating
HC	Hydrocarbon
HDV	Heavy-duty vehicle
HDDV	Heavy-duty diesel vehicle
I/M	Inspection and maintenance
LDV	Light-duty vehicle

MDDEP	Ministry of Sustainable Development, Environment, and Parks of Quebec ( <i>Ministère du Développement durable, de l'Environnement et des Parcs</i> ) [The name of the Ministry of the Environment of Quebec has changed several times over the years. The acronym MDDEP is used in this factual record to refer to the current Ministry of Sustainable Development, Environment and Parks and to all of its previous designations (MENVIQ, MEF, and MENV).]
MEF	Ministry of the Environment and Wildlife of Quebec ( <i>Ministère de l'Environnement et de la Faune</i> ) (now MDDEP)
MENV	Ministry of the Environment of Quebec ( <i>Ministère de l'Environnement du Québec</i> ) (now MDDEP)
MENVIQ	Ministry of the Environment of Quebec ( <i>Ministère de l'Environnement du Québec</i> ) (now MDDEP)
MTQ	Ministry of Transport of Quebec ( <i>Ministère des Transports du Québec</i> )
MUC	Montreal Urban Community ( <i>Communauté urbaine de Montréal</i> ) (now the CMM)
MY	Model year
NAPS	National Air Pollution Surveillance Network (Canada)
NAAEC	North American Agreement on Environmental Cooperation (1994)
NAAQOs	National Ambient Air Quality Objectives (Canada)
NESCAUM	Northern States for Coordinated Air Use Management
N <sub>2</sub> O	Nitrous oxide
NO	Nitric oxide
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitrogen oxides
O <sub>3</sub>	Ozone (see smog)
O-RVEER	<i>On-Road Vehicle and Engine Emission Regulations, SOR/2003-2</i>
PIEVAL	Heavy-duty Vehicle Inspection and Maintenance Program ( <i>Programme d'inspection et d'entretien des véhicules automobiles lourds</i> )
PM	Airborne particulate matter
PM <sub>2.5</sub>	Airborne particulate matter with a mass median diameter less than 2.5 microns (µm)
PM <sub>10</sub>	Airborne particulate matter with a mass median diameter less than 10 microns (µm)
ppb	Parts per billion
QPACC	Quebec Plan of Action on Climate Change ( <i>Plan d'action sur les changements climatiques</i> )

QWC	Quebec-Windsor Corridor
RQA	<i>Regulation respecting the Quality of the Atmosphere (Quebec), R.R.Q., c. Q-2, r. 38</i>
SAAQ	Quebec Automobile Insurance Corporation ( <i>Société de l'assurance automobile du Québec</i> )
SEM	Submissions on Enforcement Matters process set out in Articles 14 and 15 of the NAAEC
SMP	Smog Management Plan
SO <sub>2</sub>	Sulfur dioxide
SO <sub>x</sub>	Sulfur oxides
TPM	Total Particulate Matter–Airborne particulate matter with an upper size limit of approximately 100 microns ( $\mu\text{m}$ )
VOCs	Volatile organic compounds

## Definitions

Air 1 Report	Air for the Future, Pilot Project on Inspection and Maintenance of Quebec Automobiles ( <i>Un air d'avenir – projet pilote sur l'inspection et l'entretien des véhicules automobiles au Québec</i> ), Final Report No. 1, April 1999, AQLPA
Air 2 Report	Air for the Future, Pilot Project on Inspection and Maintenance of Quebec Automobiles ( <i>Un air d'avenir – projet pilote sur l'inspection et l'entretien des véhicules automobiles au Québec</i> ), Final Report No. 2, April 2001, AQLPA
Anctil Committee Report	Report on the Elaboration and Implementation Options of an Automobile Vehicle I/M Program Linked to Emissions from Light-duty Vehicles in Quebec ( <i>Rapport sur les possibilités d'implantation d'un programme d'inspection et d'entretien relié aux émissions des véhicules légers au Québec</i> ), Report from the Executive Committee for the Elaboration of a I/M Program of Automobile Vehicles in Quebec ( <i>Comité directeur pour l'élaboration d'un programme I/E des véhicules automobiles au Québec</i> ), chaired by Conrad Anctil, to the Minister of the Environment of Quebec, January 1995
Canada-wide Standards	<i>Canada-wide Standards for Particulate Matter (PM) and Ozone</i> (CCME), June 2000
Code of Practice	<i>Environmental Code of Practice for (Light-duty) Motor Vehicle Emission Inspection and Maintenance Programs</i> (CCME), 1994 and 1998
Greenhouse gas emissions	Emissions of gases into the atmosphere which trap the sun's energy and thereby contribute to rising surface temperatures. The main gases are carbon dioxide (a by-product of burning fossil fuels), methane (from agricultural sources) and nitrous oxides (from industrial sources).
Heavy-duty motor vehicle	Until 31 December 2010, Quebec defined heavy-duty vehicles in its <i>Regulation respecting Environmental Standards for Heavy Vehicles</i> as motor vehicles and motor vehicle combinations with net mass in excess of 3,000 kg (excepting farm tractors), as well as buses, minibuses, and tow trucks with net mass in excess of 3,000 kg. As of the above date, Quebec harmonized its definition with the rest of Canada, primarily by amending the first part. Heavy-duty vehicles are now defined as road vehicles or combinations of road vehicles having a gross vehicle weight rating or gross combination weight rating of 4,500 kg or more.
I/M program	Inspection and maintenance program
Light-duty motor vehicle	Vehicle with a 4-stroke engine and the gross mass of which is specified by the manufacturer at maximum 2,700 kilograms (RQA)
Notification	Secretariat recommendation to Council under NAAEC Article 15(1) for <i>Quebec Automobiles</i> (5 May 2005)
Parties	The Governments of Canada, Mexico and the United States in the context of NAAEC
Party	The Government of Canada (jointly with the Government of Quebec in the context of this factual record)
PIEVAL Regulation	<i>Regulation respecting Environmental Standards for Heavy Vehicles</i> (Quebec), R.R.Q., c. Q-2, r. 33

Precursor emissions	Emissions of a pollutant that contribute to the formation of a secondary pollutant – one that is not directly emitted by a source but is created indirectly in the atmosphere. For example, precursor emissions of nitrogen oxides (NO <sub>x</sub> ) and volatile organic compounds (VOCs) are emitted by sources like motor vehicles and then combine in the presence of warm temperatures and sunlight to create ground-level ozone (O <sub>3</sub> ), a component of smog.
QPACC 2000–2002	2000–2002 Quebec Plan of Action on Climate Change ( <i>Plan d'action 2000-2002 sur les changements climatiques</i> )
QPACC 2006–2012	2006–2012 Quebec Plan of Action on Climate Change ( <i>Plan d'action 2006-2012 sur les changements climatiques</i> )
Response	Response by the Ministry of the Environment for the Government of Quebec and by Environment Canada for the Government of Canada (1 February 2005)
Secretariat	Secretariat of the Commission for Environmental Cooperation
Shops	Repair garages and service stations for motor vehicles
Smog	The mixture of airborne chemicals often visible as a haze that hangs over cities. Smog can travel long distances in the atmosphere in North America and across oceans. A major component of smog is ground-level ozone (O <sub>3</sub> ), which is formed when two pollutants, nitrogen oxides (NO <sub>x</sub> ) and hydrocarbon volatile organic compounds (VOCs) react in sunlight. Another component of smog is airborne particles, such as fine PM, which is directly emitted by sources such as vehicles and also created in the atmosphere when NO <sub>x</sub> , VOCs, sulfur dioxide (SO <sub>2</sub> ), and ammonia react with water and other chemicals.
Smog Management Plan	<i>Management Plan for Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOCs) – Phase I</i> (CCME), November 1990
Submission	SEM-04-007 ( <i>Quebec Automobiles</i> ), submitted to the CEC on 3 November 2004 under NAAEC Article 14
Submitter	The Quebec Association Against Air Pollution ( <i>Association québécoise de lutte contre la pollution atmosphérique</i> ) (AQLPA)



## 1. Executive Summary

1. The North American Agreement on Environmental Cooperation (“NAAEC”)<sup>1</sup> came into force on 1 January 1994. The NAAEC is an international agreement among Canada, Mexico, and the United States that provides that each state Party shall ensure that its respective laws and regulations guarantee high levels of environmental protection,<sup>2</sup> and that such laws and regulations are enforced through appropriate governmental action.<sup>3</sup> This factual record focuses on those facts that relate to the Submitter’s assertions and the Party’s Response.<sup>4</sup>
2. Articles 14 and 15 of the NAAEC establish a process allowing residents of Canada, Mexico, and the United States to file submissions alleging that a Party to the NAAEC (Canada, Mexico, or the United States) is failing to effectively enforce its environmental law. Under the NAAEC, this process can lead to the publication of a factual record. The Secretariat (“Secretariat”) of the Commission for Environmental Cooperation (“CEC”) administers the NAAEC submissions on enforcement matters (“SEM”) process. What follows is a summary of the salient information relating to the Submission and the Response, as well as the background and contextual information gathered by the Secretariat and contained in this factual record.
3. On 3 November 2004, the Quebec Association Against Air Pollution (AQLPA or the “Submitter”), a non-profit organization established in Canada in the province of Quebec, filed submission SEM-04-007 (the “Submission”) with the Secretariat pursuant to NAAEC Article 14.<sup>5</sup>
4. The Submitter alleges that the Government of Canada (“Canada”), and more specifically the province of Quebec (“Quebec”), is failing to effectively enforce sections (“ss.”) 19.1, 20, and 51 of the Quebec *Environment Quality Act* (“EQA”)<sup>6</sup> as well as ss. 96.1 and 96.2 of the Quebec *Regulation respecting the Quality of the Atmosphere* (“RQA”)<sup>7</sup> (taken together, the “laws at issue”) (Appendix 2). These laws guarantee the right to a healthy environment, prohibit the sale or use in Quebec of pre-1986 light-duty vehicle models, require such models to be equipped with a working pollution control device – i.e., one that prevents emissions of hydrocarbons, carbon monoxide, and nitrogen oxides in excess of the amounts prescribed by regulation – and prohibit removing or tampering with such devices. Violation of these laws can lead to fines and/or imprisonment. The Submitter maintains that Canada is bound by Quebec’s acts and omissions as regards the implementation of the NAAEC, due to its declaration under Annex 41 of the NAAEC. Further, the Submitter notes that Quebec is a signatory to the *Canadian Intergovernmental Agreement regarding the North American Agreement on Environmental Cooperation* (“CIA”), under which Quebec is bound by the obligations arising from the NAAEC in respect of matters within its jurisdiction.<sup>8</sup> According to the Submitter, this includes the obligation to effectively enforce the laws at issue.
5. The Submitter contends that it is widely known (as reflected in international accords that Canada has entered into, and as recommended by the Canadian Council of Ministers of the Environment, or CCME) that the only way to reduce emissions and ensure effective enforcement of the laws at issue is through the establishment of a mandatory automobile inspection and maintenance program (“I/M program”) that would apply to the whole fleet of automobiles in Quebec.

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1. *North American Agreement on Environmental Cooperation* (8 September 1993), 32 I.L.M. 1480 [NAAEC].

2. *Ibid.*, art. 3. Note: The word “Article” throughout this factual record refers to an article of the NAAEC, unless otherwise specified. The use of the masculine gender implies the feminine and vice versa.

3. *Ibid.*, art. 5.

4. This factual record has been prepared by the Secretariat of the Commission for Environmental Cooperation (“CEC”) and the views contained herein do not necessarily reflect the views of the governments of Canada, Mexico, or the United States. The Secretariat has endeavored to only include information of a factual nature, and not to draw legal or other conclusions, or make recommendations, regarding the information contained herein.

5. AQLPA, SEM-04-007 (*Quebec Automobiles*) Submission (3 November 2004), online: CEC <[http://www.cec.org/Storage/83/7897\\_04-7-SUB\\_en.pdf](http://www.cec.org/Storage/83/7897_04-7-SUB_en.pdf)> [Submission] at 1.

6. *Environment Quality Act*, R.S.Q., c. Q-2 [EQA].

7. *Regulation respecting the Quality of the Atmosphere*, R.R.Q., c. Q-2, r. 38 [RQA].

8. *Canadian Intergovernmental Agreement regarding the North American Agreement on Environmental Cooperation*, online: Government of Canada <[http://www.naaec.gc.ca/eng/implementation/cia\\_e.htm](http://www.naaec.gc.ca/eng/implementation/cia_e.htm)> [CIA].

6. In February 2005, Canada and Quebec (in this factual record, the “Party”) jointly presented a response to the Submission (the “Response”) pursuant to the Secretariat’s determination under Article 14(2).<sup>9</sup> The Party noted in its Response that “a significant decrease in automobile emissions [is] an objective that the Government of Quebec wholeheartedly supports.”<sup>10</sup> The Party details the history and context of Quebec’s approach to emission reductions, discusses the enforcement of the laws at issue, and highlights efforts made towards the development of an inspection and maintenance (I/M) program in Quebec. The Response contains information regarding important developments that have influenced Quebec’s approach to enforcement, including the banning of leaded gasoline in 1990 and the federal/provincial CCME’s adoption of a plan on smog management. The Party states that since 1990, when leaded gas became unavailable, s. 96.2 RQA has become irrelevant. The Response includes a section concerning Quebec’s decision, motivated by health concerns about exposure to particulate matter, to implement heavy-duty vehicle regulations and an on-highway I/M program before committing such resources to regulate light-duty vehicles. The Party concludes in the Response that in addressing automobile emissions, the Ministry of the Environment of Quebec “is responsible for delivering a simple and effective automobile emission monitoring and inspection system that achieves the greatest positive impact on the environment for a reasonable price.”<sup>11</sup>
7. On 14 June 2006, by means of Council Resolution 06-07 (Appendix 1), the CEC Council instructed the Secretariat to prepare a factual record as follows:

SUPPORTIVE of the process provided for in Articles 14 and 15 of the North American Agreement on Environmental Cooperation (NAAEC) regarding submissions on enforcement matters and the preparation of factual records,

CONSIDERING the submission filed on 3 November 2004 by the Quebec Association Against Air Pollution (Association québécoise de lutte contre la pollution atmosphérique – AQLPA) and the Response provided by Canada on 1 February 2005,

HAVING REVIEWED the 5 May 2005 notification submitted to the Council by the Secretariat, recommending the development of the factual record with respect to the submission,

REAFFIRMING that, consistent with the *Guidelines for Submissions on Enforcement Matters under Articles 14 and 15 of the North American Agreement on Environmental Cooperation*, and as stated in the CEC’s guidebook “Bringing Facts to Light,” a factual record “outlines, in as objective a manner as possible, the history of the issue, the obligations of the Party under the law in question, the actions of the Party in fulfilling those obligations, and the facts relevant to the assertions made in the submission of a failure to enforce environmental laws effectively,”

FURTHER REAFFIRMING that a factual record thus contains neither an assessment of a Party’s policy choices made in the exercise of its discretion in respect of investigatory, prosecutorial, regulatory or compliance matters, nor an assessment of a Party’s decisions to allocate and prioritize its resources for the enforcement of environment matters,

CONSIDERING THAT, as such, assessments of the decisions not to implement a vehicle inspection maintenance program for light vehicles during the time period referenced in the submission, and not to establish a firm schedule for the implementation of such a system, are beyond the scope of the factual record process,

NOTING that section 20 of the LQE is not applicable to the facts raised in the submission,

FURTHER NOTING that Canada’s response did not indicate that the implementation of a vehicle inspection and maintenance program was the preferred means of enforcing compliance with sections 51 of the LQE and 96.1 and 96.2 of the RQA,

HEREBY UNANIMOUSLY

INSTRUCTS the Secretariat to prepare a factual record in accordance with the above-noted considerations, as well as Article 15 of the NAAEC and the Guidelines, in respect of the following items arising in the context of Submission SEM-04-007 with regard to the alleged failure to effectively enforce sections 96.1 and 96.2 of the RQA and sections 19.1 and 51 of the LQE:

9. Government of Canada and Government of Quebec, *Response to Submission SEM-04-007 (Quebec Automobiles)* (February 2005), online: CEC <[http://cec.org/Storage/75/6922\\_04-7-RSP\\_en.pdf](http://cec.org/Storage/75/6922_04-7-RSP_en.pdf)> [Response].

10. *Ibid.* at 15.

11. *Ibid.*



- the history and context of the development of the above-noted environmental laws, up to the time of their enactment; and
- the measures taken by Quebec to enforce the above-noted environmental laws (including educational measures, inspection campaigns, and the development of an inspection and maintenance program for heavy vehicles), as well as the history and context of the adoption of those measures,

DIRECTS the Secretariat to provide the Parties with its overall work plan for gathering the relevant facts and the opportunity to comment on that plan, and

FURTHER DIRECTS that the Secretariat may include, in its preparation of a factual record, any relevant facts that existed prior to the entry into force of the NAAEC on 1 January 1994 [...] <sup>12</sup>

8. This factual record is the first to focus on effective enforcement of environmental laws in a Canadian province under Annex 41 of the NAAEC. As is the nature of a factual record, it contains no finding that a Party is failing to effectively enforce its environmental laws. The remainder of this section summarizes the salient factual information gathered by the Secretariat in accordance with the Council's instructions in Council Resolution 06-07 and presented in sections 6 to 10 of this factual record.
9. In Canada, the environment is not a field expressly assigned to either federal or provincial jurisdiction by the *Constitution Act, 1867*. The federal and provincial governments derive their authority in environmental matters from other heads of power assigned specifically to them in the Constitution. Quebec's jurisdiction over the environment is based on its legislative authority over property and civil rights, local or private matters, and municipal institutions, as well as its jurisdiction

over lands and natural resources. The federal government is broadly responsible for international matters in connection with the issues in this factual record, such as the setting of emission standards for vehicles imported or manufactured in Canada as well as fuel quality standards. Provinces and territories currently have the authority to set emissions and fuel quality standards comparable to or exceeding federal standards. Provinces and territories are also responsible for some aspects of inter-provincial/territorial highway matters. <sup>13</sup> Thus, in Canada, fourteen provincial, territorial and federal governments carry out air quality management activities. In addition, two provinces have delegated authority over air quality to municipalities. <sup>14</sup> In Quebec, the control of air pollution from light-duty motor vehicles is mainly a provincial responsibility. Nevertheless, coordination through protocols and agreements among provincial and federal environment ministers has resulted in cooperative air quality management plans. <sup>15</sup>

10. Quebec enacted the EQA in 1972; in 1978 a right to a healthy environment was added to this law. In 1985, Quebec introduced the anti-tampering provisions of the RQA, in application of s. 52 EQA requiring the maintenance of motor vehicle emission control equipment. These amendments were more comprehensive than the anti-tampering legislation proposed in the CCME's 1990 Smog Management Plan ("SMP"), the intergovernmental plan designed to lower emissions in Canada by 2005. <sup>16</sup> Quebec also imposed one of the stricter penalty regimes in Canada for tampering with emission control equipment. While for several of its initiatives Quebec adhered to the SMP, <sup>17</sup> which contained anti-tampering and I/M measures, and enacted anti-tampering legislation, Quebec has discretion to select the enforcement tools for its environmental objectives.

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12. Council of the Commission for Environmental Cooperation, *Resolution 06-07* (14 June 2006), C/C.01/06/RES/07, online: CEC <[http://www.cec.org/Storage/75/6928\\_04-7-RES\\_en.pdf](http://www.cec.org/Storage/75/6928_04-7-RES_en.pdf)> [Council Resolution].
  13. Pierre-Marc Johnson & André Beaulieu, *The Environment and NAFTA: Understanding and Implementing the New Continental Law* (Washington: Island Press, 1996), 224-235 [Johnson & Beaulieu].
  14. Michael Dewing, William R. Young & Erin Tolley, *Municipalities, the Constitution, and the Canadian Federal System* (Ottawa: Parliamentary Information and Research Service, 2006).
  15. Kristen Douglas, David Johansen and Monique Hébert, *Toxic Substances: Federal-Provincial Control* (Ottawa: Government of Canada Publications, 1997), online: Government of Canada Publications <<http://publications.gc.ca/collections/Collection-R/LoPBdP/CIR/8811-e.htm>>.
  16. CCME, *Management Plan for Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOCs) – Phase I* (Winnipeg: CCME, 1990), online: CCME <[http://www.ccme.ca/assets/pdf/pn\\_1066\\_e.pdf](http://www.ccme.ca/assets/pdf/pn_1066_e.pdf)> [Smog Management Plan].
  17. MEF, Direction du milieu atmosphérique, *Air Quality in Quebec (1975-1994)* (Sainte-Foy: Gouvernement du Québec, 1997), French version online: MDDEP <<http://www.mddep.gouv.qc.ca/air/qualite/index.htm>> [Air Quality in Quebec (1975-1994)] at 2; see also MDDEP, "La qualité de l'air au Québec: historique des événements marquants", MDDEP, online: MDDEP <<http://www.mddep.gouv.qc.ca/air/evenements/historique.htm>> [MDDEP Chronology of events].

11. Understanding of problems related to maintenance of and tampering with anti-pollution devices in Quebec improved as a result of data collected from voluntary inspection clinics held in the late 1980s and the 1990s. These clinics found that some anti-pollution devices for light-duty vehicles were failing and that compliance with the anti-tampering legislation was therefore an issue.<sup>18</sup> The inspection clinics were conducted after Quebec's legislation on anti-tampering was enacted in 1985 and after the 1990 ban on lead in gasoline. Data on tampering or modification of emission devices prior to the enactment of the anti-tampering legislation were unavailable, making it impossible to compare tampering practices over time for the purposes of this factual record.
12. In order to place Quebec's enforcement measures for the laws at issue in their historical context, one can begin by tracing the development of automobile emission standards in both Canada and Quebec. In 1969, the federal and provincial governments created the National Air Pollution Surveillance Network (NAPS), which set up monitors across the country to sample and track concentrations of major air pollutants.<sup>19</sup> In the mid-1970s, the federal government developed the first National Ambient Air Quality Objectives (NAAQO)<sup>20</sup> for application in Quebec and the other provinces. These objectives were guidelines setting non-binding numerical targets on air quality.
13. Subsequently, emission standards were added to the motor vehicle regulatory regime. The importation and manufacture of new vehicles in Canada are regulated federally, and emissions generated by vehicles and their engines imported or manufactured in Canada were regulated under the federal *Motor Vehicle Safety Act* in 1993.<sup>21</sup> In 1999 the federal government enacted further environmental legislation applying to Quebec in the form of the *Canadian Environmental Protection Act* ("CEPA"), which came into force on 31 March 2000,<sup>22</sup> at which time the emission control regime of the *Motor Vehicle Safety Act* was transferred to CEPA. In 2004, the *On-Road Vehicle and Engine Emission Regulations* ("O-RVEER") made under the authority of the CEPA, came into force.<sup>23</sup>
14. After the 1970s, Quebec and the federal government focused their respective air pollution control efforts on specific pollutants: lead, ozone, and airborne particles known as total particulate matter (TPM).<sup>24</sup> Pollutants linked to automobiles include carbon monoxide (CO), hydrocarbons or volatile organic compounds (VOCs), carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). Some of these pollutants combine with one another (and with other pollutants) in the air to produce secondary pollutants, namely ground-level ozone (O<sub>3</sub> or "ozone") and fine particulates (PM<sub>2.5</sub>).
15. Coordination and management efforts to reduce ground-level ozone levels nationally by controlling the precursor emissions of NO<sub>x</sub> and VOCs began in 1990. The focus of this effort, both in Quebec and in Canada as a whole, was generally

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18. Two MDDEP voluntary light-duty vehicle inspection campaigns that covered 1,500 motor vehicles from 1988 to 1991 yielded a greater than 16% rate of non-compliance with the anti-tampering provisions; and inspection of approximately 7,200 light-duty vehicles in Quebec in the years 1997 and 1998 in the context of voluntary clinics held as part of the Air for the Future pilot project also produced a non-compliance rate of 16%: *Response*, *supra* note 9 at 14. In Canada, CCME findings from inspection clinics held between 1991 and 1995 in certain urban areas (discussed later in the factual record) estimated likewise that 16% of light-duty motor vehicles were non-compliant with the federal emissions norms adopted by virtue of the *Motor Vehicle Safety Act*, S.C. 1993, c. 16 [*Motor Vehicle Safety Act*], and that approximately 13.4% had their pollution control device tampered. See CCME, *Environmental Code of Practice for Light-Duty Motor Vehicle Emission Inspection and Maintenance Programs*, 2d ed. (Winnipeg: CCME, 1998), online: CCME <[http://www.ccme.ca/assets/pdf/pn\\_1293\\_e.pdf](http://www.ccme.ca/assets/pdf/pn_1293_e.pdf)> [1998 CCME Code of Practice] at 2.

19. Environment Canada, Environmental Protection Service, Environmental Technology Advancement Directorate, Analysis and Air Quality Division, Environmental Technology Centre, *National Air Pollution Surveillance Network, Quality Assurance and Quality Control Guidelines* (Ottawa: Environment Canada, 2004), online: Environment Canada <<http://www.etc-cte.ec.gc.ca/publications/naps/NAPSQAQC.pdf>> [NAPS].

20. National Round Table on the Environment and the Economy (NRTEE), *Developing National Ambient Air Quality Objectives for Canada* (Ottawa: NRTEE, 2008), online: NRTEE <<http://www.nrtee-trnee.com/eng/publications/ambient-air-report/ambient-air.pdf>> [NAAQO]. NAAQOs identify benchmark levels of protection for human health and the environment. The NAAQO guides governments and plays an important role in air quality management (e.g., permitting local pollution, setting an air quality index, fixing benchmarks for developing provincial objectives and standards). NAAQO goals are viewed as effects-based long-term air quality goals. See "Regulations related to Health and Air Quality", *Health Canada*, online: Health Canada <<http://www.hc-sc.gc.ca/ewh-semt/air/out-ext/reg-eng.php#a3>>.

21. *Motor Vehicle Safety Act*, *supra* note 18.

22. *Canadian Environmental Protection Act*, S.C. 1999, c. 33 [CEPA].

23. *On-Road Vehicle and Engine Emission Regulations*, SOR/2003-2 [O-RVEER].

24. NAAQO, *supra* note 20 at 3-4.

in regions where ground-level ozone levels were found to be above the ozone air quality objective established at a daily one-hour maximum of 82 parts per billion (ppb). With the exception of Quebec,<sup>25</sup> the provincial and territorial governments sitting with the federal government as the CCME joined efforts in creating a national NO<sub>x</sub>/VOC emission reduction plan. The plan was first known as the *Management Plan for Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOCs)* and was later renamed the *Smog Management Plan*.

16. For several of its initiatives Quebec adhered to the 1990 SMP<sup>26</sup> that contained provincial measures to reduce emissions of NO<sub>x</sub> and VOCs. The SMP was designed to help all governments achieve air quality objectives for ground-level ozone of 82 ppb by 2005. For Quebec, several NAPS monitoring stations in the southern part of the province were found to have ozone levels exceeding the objective.<sup>27</sup> The SMP comprised a mix of 60 programs divided among the federal, provincial, and territorial governments. It recommended that Quebec implement, by 31 December 1993, a light-duty motor vehicle inspection and maintenance program to reduce NO<sub>x</sub> and VOC emissions from vehicles in use<sup>28</sup> so as to meet the province's 2005 targets under the Plan.<sup>29</sup> Quebec also focused enforcement efforts on its anti-tampering legislation.
17. Quebec passed its anti-tampering legislation in 1985 during a period of transition from leaded to unleaded fuel (leaded fuel was available in Quebec until 1990), but before the introduction of the SMP in 1990. The legislation prohibited tampering with the fuel tank's narrower opening so as to fit the larger pump nozzle that was needed for refuel-
18. Quebec's position with regard to the *Canada-wide Standards for Particulate Matter (PM) and Ozone ("CWS")* may be regarded in the historical context of Quebec's measures to enforce the laws at issue.<sup>30</sup> The CWS were endorsed by all the CCME-member governments (federal, provincial, and territorial) except Quebec when the *Canada-wide Accord on Environmental Harmonization* (the "Harmonization Accord") was signed in January 1998.<sup>31</sup> The CWS led to a general agreement on environmental standards, targets and timelines, and in particular to a *Canada-wide Environmental Standards Sub-Agreement*.<sup>32</sup> Quebec has adopted neither the accord nor the sub-agreement. The Government of Quebec did, however, agree to act in harmony with the other jurisdictions as regards the CWS.<sup>33</sup> The CWS, while not enforceable, set numerical limits on concentrations of ozone and particulate matter and fixed a timetable for achieving those limits. The CWS envisaged the development of implementation plans in order to achieve the targeted reductions of ambient air pollutants by 2010. In addition to targets, the Harmonization Accord barred the federal government from acting whenever a province was designated as the lead authority.
19. Environment Canada's ("EC") five-year progress report on the implementation of the CWS<sup>34</sup> indicates that for 2003 to 2005, two stations in Quebec,

25. Quebec did not participate in the CCME from 1990 to 1992. The Quebec government withdrew from all federal-provincial-territorial (FPT) forums and activities, including the CCME, after a public statement on 22 June 1990 by then premier of Quebec, Robert Bourassa, after the Meech Lake Accord was rejected. Quebec was nonetheless covered by the 1990 Smog Management Plan (CCME) and adhered to it for several of its initiatives, and MDDEP was in charge of the implementation of the plan from 1990 to 2001.
26. *Air Quality in Quebec (1975-1994)*, *supra* note 17 at 2. See also *MDDEP Chronology of events*, *supra* note 17.
27. *Smog Management Plan*, *supra* note 16 at 17-19, 48 and 64.
28. *Ibid.* at 99-100 (initiative N601).
29. *Ibid.* at 157 *et seq.*
30. CCME, *Canada-wide Standards for Particulate Matter (PM) and Ozone* (Winnipeg: CCME, 2000), online: CCME <[http://www.ccme.ca/assets/pdf/pmozzone\\_standard\\_e.pdf](http://www.ccme.ca/assets/pdf/pmozzone_standard_e.pdf)> [CWS].
31. CCME, *A Canada-wide Accord on Environmental Harmonization* (Winnipeg: CCME, 1998), online: CCME <[http://www.ccme.ca/assets/pdf/accord\\_harmonization\\_e.pdf](http://www.ccme.ca/assets/pdf/accord_harmonization_e.pdf)> [Harmonization Accord].
32. CCME, *Canada-wide Environmental Standards Sub-agreement* (Winnipeg: CCME, 2001), online: CCME <[www.ccme.ca/assets/pdf/cws\\_envstandards\\_subagreement.pdf](http://www.ccme.ca/assets/pdf/cws_envstandards_subagreement.pdf)> [Environmental Standards Sub-agreement].
33. "L'ozone et les particules fines : État de situation au Québec et éléments d'intervention", MDDEP online: MDDEP <[http://www.mddep.gouv.qc.ca/air/particules\\_ozone/etat.htm](http://www.mddep.gouv.qc.ca/air/particules_ozone/etat.htm)> [MDDEP Ozone].
34. Environment Canada, *Five-Year Progress Report: Canada-wide Standards for Particulate Matter and Ozone* (Ottawa: Environment Canada, 2007), online: Environment Canada <<http://www.ec.gc.ca/Publications/31B2381E-56BF-44CC-8D65-BF6FDB7125AD%5CGovernment-of-Canada-Five-year-Progress-Report-Canada-wide-Standards-for-Particulate-Matter-and-Ozone.pdf>> [Canada Five-Year Progress Report], figures 1, 3.

both on the island of Montreal, had the highest particulate concentrations in the country, while stations in four other Quebec metropolitan areas showed results below the CWS for PM. No corresponding data were available for the Gatineau station. As regards ozone, the EC report indicates that for the same period, four of the six metropolitan areas of Quebec, in particular Gatineau and Montreal, recorded higher concentrations of PM. The 2000-2005 CWS progress report of the Ministry of Sustainable Development, Environment, and Parks of Quebec (MDDEP; formerly the Ministry of the Environment of Quebec) presents similar results.<sup>35</sup> It indicates that in 2005, Quebec had not attained the 2010 numerical targets for ozone and PM concentration. In contrast, the 2009 MDDEP report on the CWS shows that in 2008 (based on data for 2006-2008), Quebec attained the 2010 numerical targets for PM but not for ozone.<sup>36</sup>

20. The federal approach to air quality in Canada under the CEPA integrates both NAAQO and CWS approaches for measuring pollution and smog. These two measurement systems monitor sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), O<sub>3</sub>, and airborne particulate matter (PM) and are used in all provinces and territories. The Quebec government maintains air quality monitoring stations throughout Quebec, while the City of Montreal maintains such stations on Montreal Island. These stations also monitor rural volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>), and O<sub>3</sub> with a view to acting in harmony with the 1990 SMP. Air quality measures in the CEPA regulations for vehicles and fuels have resulted in new standards for improving emissions functions in automobiles.
21. The mitigation of health risks from motor vehicle pollutants is the stated purpose of legislation regu-

lating motor vehicle emissions. Canada's Auditor General, along with other studies, concluded that elevated ozone concentrations created by emissions from vehicles combining in the atmosphere are associated with an increased incidence of respiratory disease in humans.<sup>37</sup> After Quebec enacted its laws in 1985, concentrations of smog precursors (i.e., ozone and PM) declined to a small degree until 1996, before stabilizing or rising due to population growth and higher intensity of vehicle use.<sup>38</sup> The initial air quality improvement was partly due to new federal vehicle import and manufacturing regulations and to advances in emission systems and motor vehicle engines on newer models.<sup>39</sup> Contemporary pollution control equipment has few if any adjustable parameters and is equipped with tamper-proof components in the ignition system.<sup>40</sup> Since the disappearance of leaded gasoline, there is both less incentive and less opportunity today for vehicle owners to tamper with or modify emission control devices. However, such equipment is not completely fail-proof. Poorly maintained equipment may still contribute to elevated pollution levels,<sup>41</sup> and some pollution control devices are still tampered with and modified.<sup>42</sup> Notwithstanding apparent declines in tampering, the CCME Codes of Practice for both light-duty and heavy-duty vehicles continue to recommend that anti-tampering legislation be kept in place.

22. The Party provided a record of all prosecutions for violations of ss. 19.1 and 51 EQA and ss. 96.1 and 96.2 RQA. It did not present documentation of any prosecutions from 1985 (when the laws at issue were passed) through 1990 and between 1998 and 2008. The first prosecution under the laws at issue appears to have occurred in 1991. With the lack of tampering data from before 1985, no analysis can be made of changes in tampering activity pre-and

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35. MDDEP, Direction des politiques de l'air, *Les standards pancanadiens relatifs aux particules et à l'ozone : Rapport quinquennal (2001-2005) du Québec* (Sainte-Foy: Gouvernement du Québec, 2007), online: MDDEP <[http://www.mddep.gouv.qc.ca/air/particules\\_ozone/rapport\\_quin.pdf](http://www.mddep.gouv.qc.ca/air/particules_ozone/rapport_quin.pdf)> [*Quebec Five-Year Progress Report*] at 10.

36. MDDEP, Direction des politiques de la qualité de l'atmosphère, *Rapport sur les particules fines et l'ozone au Québec en relation avec les standards pancanadiens, Rapport 2009* (Sainte-Foy: Gouvernement du Québec, 2010), online: MDDEP <[http://www.mddep.gouv.qc.ca/air/particules\\_ozone/Rapport2009.pdf](http://www.mddep.gouv.qc.ca/air/particules_ozone/Rapport2009.pdf)> [*2009 Quebec Report on CWS*] at 3-4.

37. Government of Canada, Office of the Auditor General, Commissioner of the Environment and Sustainable Development "Chapter 4: Smog; Our Health at Risk", in *2000 May Report of the Commissioner of the Environment and Sustainable Development* (Ottawa: Government of Canada, 2000), online: Office of the Auditor General <[http://www.oag-bvg.gc.ca/internet/English/parl\\_cesd\\_200005\\_04\\_e\\_11231.html](http://www.oag-bvg.gc.ca/internet/English/parl_cesd_200005_04_e_11231.html)> [*Smog Report*] at 4-7. National Research Council, *Evaluating Vehicle Emissions Inspection and Maintenance Programs* (Washington DC: National Academy Press, 2001) [*US NRC Report*].

38. *Smog Report*, supra note 37 at 4-7, 4-22, 4-31.

39. *Ibid.* at 4-22.

40. D.I. Gourley et al., *AirCare: Results and Observations in 2001 and 2002* (Burnaby: Pacific Vehicle Testing Technologies, 2003), online: Aircare <<http://www.aircare.ca/pdfs/2003Report-FinalVersion.pdf>> [*2003 Pacific Report*] at 55.

41. *Ibid.*

42. *Ibid.*



post-1985. From 1991 through 1996, prior to Quebec's agreeing to be bound by the NAAEC and signing the CIA, seven prosecutions involving ss. 96.1 and 96.2 were recorded and led to the assessment of fines.<sup>43</sup> One prosecution, the *Tremblay* case, was recorded in 1998.<sup>44</sup> Since 2008, the Quebec Police Force (*Sûreté du Québec*) has been able to intercept some altered vehicles when they are stopped for emitting excessive noise. In such instances, while inspecting the exhaust system to check the state of the muffler, the officers use the opportunity to ascertain the presence of a catalytic converter. If there is none, they write up a statement of offence under s. 96.1 RQA, which prohibits the use of a vehicle without such a converter. This procedure gave rise to 26 convictions between August 2008 and December 2010.<sup>45</sup> It should be noted that while the laws at issue may involve prosecutorial action, prosecution is but one method a Party might choose to enforce its environmental laws, and a dearth of prosecutions does not necessarily mean non-enforcement or lack of effective enforcement. Indeed the Submitter advances the benefits of inspections rather than administrative penalties as a preferred means of enforcement, and cites other jurisdictions in Canada that use the inspection process. NAAEC Article 5(1) lists other possible government enforcement measures. The Secretariat reiterates that in any event, it does not opine on whether the Party appears to have failed to effectively enforce the laws at issue.

23. One of the MDDEP divisions did consider the enforcement of the laws at issue and the lack of convictions in a memorandum dated 2000 (Appendix 10).<sup>46</sup> Information on compliance issues also came to light from the voluntary inspection clinics and pilot projects operated by MDDEP and from I/M programs in other provinces. According to MDDEP's Division of Air Quality, there were few convictions because prosecuting violations was onerous. It was difficult to establish that a

device was not in "good working order" in the absence of clear emission standards against which to measure a device for the purposes of RQA ss. 96.1 and 96.2. MDDEP also noted problems in properly identifying perpetrators and a lack of enforcement resources for the inspection of garages. Public "whistleblowing" was thus seen as the only practical means to enforce these provisions. The Division of Air Quality considered these problems to have added to the difficulty of securing convictions.<sup>47</sup>

24. This factual record focuses on Quebec's three stages of enforcement of the laws at issue from 1985 to 2005 inclusive, and discusses a fourth stage, in particular, as per Council Resolution 06-07, providing additional information on the heavy-duty vehicle inspection and maintenance program adopted post-2005. The first stage of enforcement (1985–1996) largely consisted of prosecutions. In the second stage (1996–2001), prosecutions were gradually reduced, being replaced by inspection and maintenance measures. In the third stage (2001–2005), the enforcement approach was marked by reliance on emission control technology improvements.

25. The first stage of enforcement was marked by Quebec's adherence, for several of its initiatives, to the SMP (which concerned NO<sub>x</sub>/VOC) in 1990.<sup>48</sup> These initiatives included I/M programs for light-duty vehicles, enforcement of anti-tampering laws, and reduction of emissions in the Quebec portion of the Quebec-Windsor Corridor ("QWC"). During this period, MDDEP's enforcement efforts for the laws at issue took the form of prosecutions, with a supporting inspection campaign that included 1,500 vehicles. A series of voluntary inspection clinics was held by MDDEP in conjunction with Environment Canada, notably in 1991, 1993, and 1994.<sup>49</sup> As stated above, Quebec reported seven prosecutions for tampering during

43. Information provided by Quebec for SEM 04-007 (27 November 2006) [*Information provided by Quebec, 2006*] at Tab 18: "Constats d'infraction en vertu des articles 96.1 et 96.2 du Règlement sur la qualité de l'atmosphère" [*Statements of offence under sections 96.1 and 96.2 of the RQA*].

44. *Response, supra* note 9.

45. Supplemental Information from the Party (Canada/Quebec) (20 May 2011) [*2011 Supplemental Information*].

46. *Submission, supra* note 5 at para. 28; MDDEP, Service de la qualité de l'atmosphère, Memorandum (27 March 2000) [*MDDEP Enforcement Memorandum*] at 2.

47. *Ibid.*

48. *Air Quality in Quebec (1975–1994), supra* note 17 at 2. See also MDDEP *Chronology of events, supra* note 17.

49. *Submission, supra* note 5 at appendix 10: AQLPA, *Projet pilote sur l'inspection et l'entretien des véhicules automobiles au Québec; Rapport final: Un air d'avenir* (Saint-Léon-de-Standon: AQLPA, 1999) [*Air 1*] at 25–26. For example, in 1991, 569 light-duty vehicles were inspected, with a failure rate of 29%. In addition, Environment Canada held its own voluntary inspection clinics at various points throughout the country.

this period. No prison terms were recorded, but some fines were levied.<sup>50</sup>

26. The second stage of enforcement from 1996 to 2001, began shortly after Quebec signed the CIA. The enforcement approaches were for the most part voluntary measures that did not include penalties for vehicle owners in violation of the law.<sup>51</sup> The enforcement measures that marked this stage included voluntary inspection clinics held by the Submitter as part of the pilot project Air for the Future (*Un air d'avenir*). These clinics, held in 1997–98, served to inventory 4 million light-duty and heavy-duty vehicles in Quebec, inspect 7,242 light-duty vehicles,<sup>52</sup> and to estimate an emission failure rate of 16%.<sup>53</sup> Based on these results, the Submitter filed a report with MDDEP in 1999 recommending the implementation of a Quebec-wide I/M program for light-duty and heavy-duty vehicles.<sup>54</sup> During this period, further studies were conducted on the health effects of particulate matter emissions,<sup>55</sup> and in 1998 the CCME published a second edition (the first dated from 1994) of the Code of Practice for light-duty vehicle programs in Canada, aiming to assist provinces with enforcement measures against tampering. In Quebec, charges were laid in 1998 (although they did not arise from the above-mentioned inspection measures) and led to the assessment of a fine for a legal violation involving tampering with a pollution control device. As noted above, this was the *Tremblay* case, a penal prosecution brought in the wake of a civil judgment, unlike the previous prosecutions that had been brought directly by the Attorney General of Quebec. A statement of offence was served on André Tremblay in June 1998 for having removed or tampered with, or allowed someone else to remove or tamper with, a catalytic converter in violation of s. 96.2 RQA, thus constituting an offence under s. 96.6 RQA. Mr.
- Tremblay pleaded guilty and, on 14 July 1998, sent payment of \$600, consisting of the \$500 fine plus \$100 in costs.<sup>56</sup>
27. The last era in the history of enforcement measures covers the period from 2001 to 2005. The means chosen to enforce the laws at issue shifted from voluntary light-duty motor vehicle inspection measures to government planning for a mandatory inspection and maintenance program under a new air quality strategy called the greenhouse-gas emissions strategy. Quebec committed itself to a mandatory light-duty and heavy-duty vehicle inspection and maintenance program under the Quebec Climate Change Plan 2000–2002. Following the recommendations of the construction and engineering firm, SNC-Lavalin, MDDEP annual reports discussed progress toward the development of the light-duty and heavy-duty vehicle inspection and maintenance programs. In 2005, Quebec adopted the *Regulation respecting Environmental Standards for Heavy Vehicles*.<sup>57</sup> Although MDDEP's Division of Air Quality had advised in 2000 on the difficulty in enforcing the laws at issue for light-duty vehicles (as discussed above), by 2005 no new regulations or emission standards had been passed for light-duty vehicles. Another new development was the CWS in June 2000;<sup>58</sup> which was endorsed by the CCME members (except Quebec)<sup>59</sup>, and led to implementation measures in the provinces and territories.
28. The Quebec Program for Inspection and Maintenance of Heavy-Duty Vehicles (“PIEVAL”) was launched in 2006 following the third and last enforcement era described above. PIEVAL's stated goals were to inspect 6,000 heavy-duty vehicles annually, with at least 3,000, or 50%, achieving compliance following inspection,<sup>60</sup> and resulting in overall PM emission reductions of 450 tonnes a

50. *Statements of offence under sections 96.1 and 96.2 of the RQA, supra* note 43.

51. *Response, supra* note 9 at 14.

52. *Ibid.* at 13–14.

53. *Submission, supra* note 5, para. 9; *Air 1, supra* note 49 at 25, 28, 29, 32; *Response, supra* note 9 at 14. The standards used to determine the failure rate were the hydrocarbon (HC) and carbon monoxide (CO) standards used by Environment Canada for its 1991 inspection clinics.

54. *Air 1, supra* note 49 at 56.

55. CCME, *Human Health Effects of Fine Particulate Matter: Update in Support of the Canada-wide Standards for Particulate Matter and Ozone* (Winnipeg, CCME, 2004), online: CCME <[http://www.ccme.ca/assets/pdf/prrvw\\_pm\\_fine\\_rvsd\\_es\\_e.pdf](http://www.ccme.ca/assets/pdf/prrvw_pm_fine_rvsd_es_e.pdf)>.

56. *Response, supra* note 9 at 10–11.

57. *Regulation respecting Environmental Standards for Heavy Vehicles, R.R.Q., c. Q-2, r. 33 [PIEVAL Regulation]*.

58. CWS, *supra* note 30.

59. MDDEP *Ozone, supra* note 33.

60. *Information provided by Quebec, 2006, supra* note 43 at Tab 19: Thomas J. Mulcair, Minister of the Environment of Quebec, “Mise en œuvre du programme d’inspection et d’entretien des véhicules automobiles lourds (PIEVAL) visant le contrôle des émissions polluantes”, Memorandum to the Council of Ministers (13 novembre 2003) [2003 *Minister Memorandum*] at 6.

year.<sup>61</sup> In 2006 Quebec had some 4.5 million vehicles of all types on the road.<sup>62</sup>

29. Quebec contracted with the Quebec Automobile Insurance Corporation (*Société de l'assurance automobile du Québec – SAAQ*) to authorize the carrier enforcement officers of Quebec Highway Enforcement (*Contrôle routier Québec – CRQ*, an agency of SAAQ) to conduct on-road emission inspections of heavy-duty vehicles under PIEVAL. As part of their normal operations, CRQ enforcement officers also conducted statutory mechanical safety inspections, involving approximately 110,667 mechanical inspections a year. With respect to PIEVAL, Quebec reports that CRQ officers conducted an average of 677 heavy-duty vehicle environmental inspections per year from 2006 to 2008, representing approximately 0.61% of all CRQ inspections.<sup>63</sup>
30. According to a 2003 memorandum by the Minister of the Environment of Quebec, there are 130,000 heavy-duty vehicles registered in Quebec, with a non-compliance rate of around 13% (16,500 heavy-duty vehicles).<sup>64</sup> A 2007 MDDEP study on heavy-duty vehicle emissions reported 175,231 heavy-duty vehicles registered in Quebec, versus 169,771 in 2005.<sup>65</sup> The 2007 study found an overall reduction in failure rates by an average of 52% from those reported in 2005, with the average declining to 7.7% (or 8.2% including regions left out of the 2005 data), while the rate in 2005 was 16.1%.<sup>66</sup> Similar reductions in failure rates were reported in other jurisdictions.
31. The 2007 emissions study thus indicates that there are more heavy-duty vehicles on the road than in the past, which has an impact on overall particulate and CO<sub>2</sub> levels. As to failure rates, the authors of the MDDEP 2007 study attribute the decrease in part to the rejuvenation of the heavy-duty vehicle fleet.<sup>67</sup> They indicate that this trend should continue with the improved mandatory vehicle emission regulations for heavy-duty vehicles introduced by the federal government in 2004 and the 2007 emission standards, and with the technological progress resulting from them.<sup>68</sup> If non-compliant vehicle numbers are estimated by multiplying the number of heavy-duty vehicles by the average rate of non-compliance in 2003, 2005, and 2007 respectively, there were fewer non-compliant heavy-duty vehicles in Quebec in 2007 than there were in 2005 or 2003. However, the report notes that the kilometers travelled by heavy-duty vehicles increased 45% from 1990 to 2005,<sup>69</sup> and that heavy-duty diesel vehicle (HDDV) emissions have increased 95% since 1980.<sup>70</sup> No information is provided by the Submitter or the Party that would indicate similar patterns for light-duty vehicles.

## 2. Summary of the Submission

32. On 3 November 2004, the Quebec Association Against Air Pollution (AQLPA or “Submitter”), a non-governmental organization in the province of Quebec, filed submission SEM-04-007 with the Secretariat pursuant to Article 14 of the NAAEC.<sup>71</sup> The Submitter asserts that Canada, and more specifically the province of Quebec, is failing to effectively enforce its environmental laws.

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61. MDDEP, *Rapport annuel de gestion 2005–2006* (Sainte-Foy: Gouvernement du Québec, 2006), online: MDDEP <[http://www.mddep.gouv.qc.ca/ministere/rapports\\_annuels/rapport\\_2005-2006.pdf](http://www.mddep.gouv.qc.ca/ministere/rapports_annuels/rapport_2005-2006.pdf)> [MDDEP 2006 Annual Report] at 6.

62. “Transport et changements climatiques”, Ministère des Transports du Québec (MTQ), online: MTQ <[http://www.mtq.gouv.qc.ca/portal/page/portal/ministere/ministere/environnement/changements\\_climatiques/transport\\_changements\\_climatiques](http://www.mtq.gouv.qc.ca/portal/page/portal/ministere/ministere/environnement/changements_climatiques/transport_changements_climatiques)>. [Transportation and Climate Change]

63. Request for supplemental information from the Secretariat dated 19 December 2008, and response from the Party (Canada/Quebec) (12 May 2009) [2009 Supplemental Information] at 9-10.

64. 2003 Minister Memorandum, *supra* note 60 at 2.

65. MDDEP, Direction des politiques de l’air. *Caractérisation visuelle des émissions des véhicules lourds 2007 – Résultats et analyse* (Sainte-Foy, Gouvernement du Québec, 2008), online: MDDEP <<http://www.mddep.gouv.qc.ca/air/pieval/Rapport-PIEVAL2007.pdf>> [MDDEP 2007 HDV Emissions Study] at 8 and 31.

66. *Ibid.* at 40–41.

67. *Ibid.* at 41, 43.

68. *Ibid.* at 44.

69. *Transportation and Climate Change*, *supra* note 62.

70. *Ibid.*

71. *Submission*, *supra* note 5.

33. The Submitter stresses that ss. 96.1 and 96.2 RQA<sup>72</sup> were adopted to give effect to ss. 19.1, 20, and 51 EQA<sup>73</sup> with respect to air pollution from light-duty vehicle emissions, and alleges that Quebec is failing to effectively enforce all of these provisions, resulting in allegedly harmful health and environmental effects. The Submitter asserts that Canada is bound by Quebec's acts and omissions as

regards the implementation of the NAAEC due to its declaration under Annex 41 of the NAAEC. Further, the Submitter notes that Quebec is a signatory to the CIA, under which it is bound by the obligations arising from the NAAEC in respect of matters within its jurisdiction. According to the Submitter, the latter includes effectively enforcing its environmental laws.<sup>74</sup>

## 2.1 Assertions on the alleged failure to effectively enforce laws on vehicle emissions

34. The Submitter asserts that Quebec is failing to enforce environmental laws that require all post-1985 motor vehicles in Quebec to be equipped with an apparatus in good working order to reduce or eliminate the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere. According to the Submitter, Quebec is failing to enforce the requirement that anti-pollution devices not be removed or tampered with, and the requirement that fuel tanks not be opened or modified so that banned leaded fuel can be used. As a result of allegedly failing to enforce these requirements, the Party is purportedly also failing to ensure the right of Quebec citizens to a healthy environment and to protection of the environment to the extent provided by the EQA and the regulations.

35. The Submitter estimates that in 1999 there were still over 600,000 light-duty motor vehicles from post-1985 model years (MY) (comprising 16% of the approximately four million light-duty vehicles in Quebec) that were non-compliant with ss. 96.1 and 96.2 RQA and s. 51 EQA.<sup>75</sup> According to the Submitter, Quebec has made scarce use of prosecutions<sup>76</sup> and has not implemented a mandatory inspection and maintenance program for light-duty vehicles,<sup>77</sup> which the Submitter considers to be the most effective enforcement tool.

36. The Submitter claims that Quebec has failed to assign responsibility for enforcing the laws at issue to a government department, has not allocated funds for enforcement, and has not provided police forces with the training or equipment necessary to monitor compliance.<sup>78</sup> As a consequence, the Submitter asserts that in the first 19 years following the enactment of ss. 96.1 and 96.2 RQA, Quebec has issued fewer than ten indictments for alleged violations, an unknown number of which led to convictions.<sup>79</sup> The Submitter also claims that Quebec considered an I/M program for older vehicles at resale, but decided not to implement such a program.<sup>80</sup> The Submitter thus concludes that the laws at issue have not been effectively enforced in the absence of such government actions and a Quebec-run I/M program.<sup>81</sup>

37. The Submitter asserts that knowledgeable officials involved in air quality management and emissions from motor vehicles, as well as the Government of Quebec and numerous North American and international bodies, all recognize that a mandatory I/M program applicable to all light-duty vehicles on a sufficiently frequent basis (such as annual or biennial) is the only effective way to enforce legislation pertaining to air pollution from light-duty vehicle emissions.<sup>82</sup> The Submitter states that this method is not only generally accepted by govern-

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72. RQA, *supra* note 7.

73. EQA, *supra* note 6

74. CIA, *supra* note 8.

75. *Submission*, *supra* note 5 at para. 9; *Air 1*, *supra* note 49.

76. *Submission*, *supra* note 5 at para. 9.

77. *Ibid.* at paras. 9, 13.

78. *Ibid.* at paras. 9, 29.

79. *Ibid.* at para. 9.

80. *Ibid.* at para. 55.

81. *Ibid.* at paras. 9–11.

82. *Ibid.* at paras. 10, 25.



ments, but is also widely reflected in many international agreements signed by Canada,<sup>83</sup> and is, moreover, consistent with the work of other Canadian bodies such as the CCME.<sup>84</sup> Further, the Submitter states that a mandatory I/M program for light-duty vehicles was recommended by the Ministry of Health and Social Services and the Office of the Coroner of Quebec.<sup>85</sup>

38. The Submitter notes that Quebec created a steering committee in 1993 to study and develop an approach for implementing an I/M program for light-duty vehicles.<sup>86</sup> The Submitter also states that, in 1996, Quebec commissioned the Submitter to conduct an exhaustive study with the aim of designing such a program (phase I of the Air for the Future project).<sup>87</sup> According to the Submitter, after two years of working intensively with 40 partners from the automotive, environmental, and public health sectors in Quebec, it delivered its report (“Air 1 Report”) and recommendations, noting that these were supported by a very broad consensus.<sup>88</sup> The Submitter draws attention to page 106 of this report, which states that a mandatory biennial I/M program applicable to all light-duty vehicles in Quebec aged three years and older was unanimously recognized by the partners<sup>89</sup> as essential to the effective enforcement of ss. 96.1 and 96.2 RQA and s. 51 EQA.<sup>90</sup> The

Submitter asserts that it and its partners were mandated by MDDEP in 1999 and 2001 to pursue the second and third phase of the Air for the Future pilot project to clarify the government’s stated high-priority issues.<sup>91</sup>

39. The Submitter states that Quebec also made commitments to implement an I/M program in the Quebec Plan of Action on Climate Change 2000-2002.<sup>92</sup> The Submitter notes that in 2000, MDDEP was alerted to compliance-related problems and the low numbers of prosecutions under the laws at issue, as evidenced by an internal memorandum from the Director of the Division of Air Quality.<sup>93</sup> The Submitter points out that in this internal communication the Director of the Division of Air Quality speculated about an amendment to the current regulation to authorize an I/M program under new vehicle registration, falling under the responsibility of the Quebec Automobile Insurance Corporation (“SAAQ”), an agency of the Government of Quebec.<sup>94</sup>
40. Given that certain government plans called for an I/M program for light-duty vehicles to be operational by 2002 or 2003, and in light of the support offered for these plans by the ministries and agencies (including the SAAQ) allegedly most affected by their implementation,<sup>95</sup> the Submitter expresses

83. *Ibid.* at paras. 12, 14, 17, 30.

84. *Ibid.* at paras. 15, 20, 22.

85. *Ibid.* at paras. 40, 43.

86. *Ibid.* at para. 18. Quebec appointed an executive committee to review the *Smog Management Plan*, *supra* note 16, and its recommendations. The committee, chaired by Conrad Anctil, submitted its report in 1995. The report is further discussed in section 7.3 of the factual record.

87. *Submission*, *supra* note 5 at para. 22.

88. *Ibid.* at para. 24; *Air 1*, *supra* note 49.

89. *Ibid.* The following are the 40 businesses, organizations, associations, and government bodies: Agence de l’efficacité énergétique, Association des industries de l’automobile, Canadian Tire, CARQUEST, Entrepôt Montréal, ESP Canada, SPX Canada, Snap-On Sun, UAP/NAPA, Uni-Sélect, Vast Auto, Association des mandataires en vérification mécanique du Québec, CAA-Québec, Camo-route, Centre d’estimation Sherbrooke, Corporation des concessionnaires d’automobiles du Québec, École des métiers de l’équipement motorisé de Montréal, Environment Canada, Government of Canada (Climate Change Action Fund), Health Canada, Joliette Dodge Chrysler, Les centres d’estimation agréés du Québec, Ministère de l’Environnement du Québec, Ministère des Ressources naturelles du Québec, Ministère des Transports du Québec, Régie régionale de la santé et des services sociaux de Montréal-centre, Ville de Brossard, Ville de Montréal. The groups included: Association des services de l’automobile, Comité sectoriel de la main d’œuvre de l’industrie de l’automobile, Conseil provincial des comités paritaires de l’industrie de l’automobile, Conseil régional de l’environnement de la Montérégie, Conseil régional de l’environnement de Lanaudière, Canadian Petroleum Products Institute, ProtectAir, Société de l’arbre du Québec, STOP, and Union québécoise pour la conservation de la nature.

90. *Ibid.* at paras. 23–25.

91. *Ibid.* at paras. 27, 34.

92. *Ibid.* at para. 33.

93. *Ibid.* at para. 28; *MDDEP Enforcement Memorandum*, *supra* note 46.

94. *Ibid.*

95. *Submission*, *supra* note 5 at para. 35 and at appendix 17: “Compte-rendu de la réunion du Comité aviseur restreint du 1<sup>er</sup> octobre 2001”, final version (16 November 2001), bullet 11 at 12; *ibid.*, “Compte-rendu de la réunion du Comité aviseur restreint du 15 novembre 2001”, final version (1 December 2001), bullet 15 at 16–17; *ibid.*, “Compte-rendu de la réunion du Comité aviseur restreint du 23 janvier 2002”, final version (16 February 2002), bullet 27 at 29; *ibid.*, “Compte-rendu de la réunion du Comité aviseur restreint du 10 mai 2002”, final version (22 June 2002), bullet 49 at 53; *ibid.*, “Compte-rendu de la réunion du Comité aviseur restreint du 21 juin 2002”, final version (3 July 2002), bullet 57 at 59.

its frustration with the continued promises and planning for a program<sup>96</sup> that has yet to be implemented.<sup>97</sup>

Today, more than nineteen years after the entry into force of sections 96.1 and 96.2 of the [RQA] and after more than fifteen years of studies, reports, consultations, and promises, the Government of Quebec and its Ministry of the Environment are still failing to effectively enforce these sections. They are still delaying fulfillment of their promise to implement a mandatory bien-

nial inspection and maintenance program for Quebec's light-duty vehicles aged three years and over.<sup>98</sup>

41. The Submitter then states that ss. 96.1 and 96.2 RQA were enacted to give effect to ss. 19.1, 20, and 51 of the EQA with respect to light-duty vehicle emissions in Quebec. The Submitter alleges that the government's failure to deliver on its promise of implementing an I/M program for light-duty vehicles has resulted in the laws at issue failing to be effectively enforced.<sup>99</sup>

## 2.2 Assertion as to the alleged harm incurred due to non-enforcement of the laws at issue and the potential benefits of an I/M Program

42. This subsection is a summary of the Submitter's assertions regarding the harm allegedly caused by the Party's failure to effectively enforce the laws at issue. The Submitter considers the assertion of harm in conjunction with the available information concerning the manner in which an I/M program can promote compliance and reduce emissions. According to the Submitter, the non-enforcement of the relevant EQA and RQA provisions has harmful human health and environmental effects and is responsible for high levels of various pollutants in the air and on the ground.<sup>100</sup> These include pollutants targeted by the environmental laws at issue: hydrocarbons, carbon monoxide and nitrogen oxides. In particular, the Submitter highlights the harmful environmental and public health effects of smog, in which motor vehicle pollution is a major factor.<sup>101</sup> The Submitter references several reports in making these assertions and includes them as appendices.<sup>102</sup>
43. The Submitter asserts that the lack of an I/M program in Quebec causes differential harm to Quebec residents, disadvantaging them compared to the populations of other jurisdictions. The Submitter illustrates this point by noting the existence of I/M programs for light-duty vehicles in North America, such as in the provinces of Ontario and British Columbia as well as in forty US states and Mexico City, which the Submitter claims have benefited the health and environment of residents of those jurisdictions. Further, the Submitter notes that nineteen jurisdictions under the Ozone Annex to the 1991 *Agreement between the Government of the United States of America and the Government of Canada on Air Quality* have inspection programs to control emissions.<sup>103</sup> Quebec is, according to the Submitter, one of only three states or provinces, along with Michigan and Wisconsin, in the Pollutant Emission Management Area (PEMA)<sup>104</sup> that has not adopted a light-duty vehicle I/M program

96. *Ibid.* "Commentaires de M. Bergeron, Compte-rendu de la réunion du Comité avisur restreint du 1<sup>er</sup> février 2002", final version (3 February 2002), at 11.

97. *Submission*, *supra* note 5 at para. 36.

98. *Ibid.*

99. *Ibid.* at paras. 10, 28.

100. *Ibid.* at para. 11.

101. *Ibid.* at para. 39.

102. *Ibid.* at paras. 37–43 and at appendix 18: Norman King, Louis Drouin & Jo-Anne Simard, *Impacts sur la santé publique des différentes solutions pour améliorer la mobilité entre Montréal et la Rive-Sud* (Montréal: Direction de la santé publique, Régie régionale de la santé et des services sociaux de Montréal-Centre, 2002), online: Agence de la santé et des services sociaux de Montréal <[http://publications.santemontreal.qc.ca/uploads/tx\\_assmpublications/2-89494-346-6.pdf](http://publications.santemontreal.qc.ca/uploads/tx_assmpublications/2-89494-346-6.pdf)> [King, Drouin & Simard Report]. *Ibid.* at appendix 19: Ministère de la Santé et des Services sociaux du Québec (MSSS), *Programme national de santé publique 2003-2012* (Québec, Ministère de la Santé et des Services sociaux, 2003), online: MSSS <<http://publications.msss.gouv.qc.ca/acrobat/f/documentation/2002/02-216-01.pdf>> [Public Health National Program 2003-2012]. *Ibid.* at appendix 31: *Smog Report*, *supra* note 37. *Ibid.* at appendix 32: Pollution Probe, *The Smog Primer* (Toronto: Pollution Probe, 2002), online: Pollution Probe <<http://www.pollutionprobe.org/report/smogprimer.pdf>> [The Smog Primer] at 47.

103. *Ibid.* at appendix 13: *Protocol Amending The "Agreement between the government of Canada and the government of the United States of America on Air Quality"* (7 December 2000), online: Environment Canada <<http://www.ec.gc.ca/air/default.asp?lang=En&n=Fa26FE79-1>>. This protocol added a new Annex 3, titled "Specific Objectives Concerning Ground-Level Ozone Precursors" to the Agreement.

104. *Ibid.* at paras. 30 and 49. The PEMA is established in Part II of the 1991 *Agreement between the Government of the United States of America and the Government of Canada on Air Quality*.

requiring mandatory inspections at least every two years of all in-use vehicles aged five years or more. The Submitter also states that an I/M program takes approximately two years to implement and that Quebec has no justification for its delay of over nineteen years.

44. Based on its findings from the various studies it has performed for the Government of Quebec and the MDDEP, the Submitter claims that a light-duty vehicle I/M program would lead to reductions of approximately 33.9% in carbon monoxide (CO) emissions, 28.9% in volatile organic compound (VOC) emissions, and 16% in nitrogen oxide (NO<sub>x</sub>) emissions from the overall vehicle fleet in the province, all of which are pollutants that contribute to smog and acid rain.<sup>105</sup> According to the Submitter, an I/M program would also lead to approximately 5% fuel economies for the Quebec automobile fleet, equivalent to monetary savings for the province four times greater than the cost of the inspection program. This decreased fuel consumption, according to the Submitter, represents an equal decrease (in CO<sub>2</sub> equivalents) of CO<sub>2</sub> and

nitrous oxide (N<sub>2</sub>O), which are both greenhouse gases (GHG) responsible for climate change.<sup>106</sup>

45. Finally, the Submitter asserts that the Party has “caused direct harm to the author of the Submission, to AQLPA, and to all of its partners, who have invested their credibility, efforts and resources over an eight-year period.”<sup>107</sup> It claims that this harm resulted from years of failure by Quebec to establish a firm schedule for implementing I/M programs.
46. On 3 December 2004, the Secretariat determined that Submission SEM-04-007 met all the requirements set out in Article 14(1) of the NAAEC and, in light of the criteria contained in Article 14(2), determined that the Submission merited a Response from the Party.<sup>108</sup> Environment Canada for Canada, and the Ministry of Sustainable Development, Environment, and Parks of Quebec (MDDEP, previously the Ministry of the Environment of Quebec-MEF) for Quebec, responded jointly to the Submission on 1 February 2005 (the “Response”).<sup>109</sup>

### 3. Summary of the Response

47. The Party’s Response begins with a description of the legislative jurisdictions of each level of government pertaining to the environment in Canada. The Party explains that the environment is an area that was not expressly assigned to either level of government by the *Constitution Act, 1867*. Rather, the federal and provincial governments derive their authority in environmental matters from heads of power specifically assigned to them in the Constitution.<sup>110</sup> According to the Party, a province’s jurisdiction over the environment is based on its authority over property and civil rights, local or private matters, and municipal institutions, as well its jurisdiction over provincial lands and natural resources.<sup>111</sup> The Party explains that in the exercise of these provincial legislative powers,

Quebec passed the *Environment Quality Act* (“EQA”) in 1972. The Party explains that the EQA constitutes Quebec’s comprehensive environmental legislation and falls under the responsibility of the Minister of Sustainable Development and the Environment of Quebec.<sup>112</sup>

48. The Party then addresses the complexity of implementing international treaties in a federal state and explains the relevance of Annex 41 of the NAAEC. The Party notes that the power over external relations was granted to Canada in the *Statute of Westminster* in 1931. The domestic implementation of treaties, however, remains divided between the federal and provincial governments. The Party explains that:

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105. *Submission, supra* note 5 at para. 38.

106. *Ibid.*

107. *Ibid.* at para. 53.

108. Secretariat of the Commission for Environmental Cooperation, *Quebec Automobiles – Article 14 (1) and (2) Determination* (3 December 2004), A14/SEM/04-007/06/14(1)(2), online: CEC <[http://cec.org/Storage/75/6919\\_04-7-DET%2014\\_1\\_\\_2\\_\\_fr.pdf](http://cec.org/Storage/75/6919_04-7-DET%2014_1__2__fr.pdf)>.

109. *Response, supra* note 9.

110. *Ibid.* at 3–4.

111. *Ibid.*

112. *Ibid.*

The federal government of Canada does not have the authority to implement treaties when the subject matter falls under the exclusive jurisdiction of the provinces. Implementation of a treaty that involves issues of provincial jurisdiction therefore rests with each provincial government. As a result, such treaties often include a “federal state” clause, which means that the treaty only applies to those provinces that have committed themselves to implementing the treaty. In the NAAEC, this “federal state” clause is embodied in Annex 41.<sup>113</sup>

49. The Party states that to enable the provinces to participate in the implementation of the NAAEC, the federal government and the provincial governments of Alberta, Manitoba and Quebec signed the CIA<sup>114</sup> pursuant to Annex 41 of the NAAEC, with the following purpose in mind:

When the NAAEC entered into force on 1 January 1994, the Government of Canada assumed its obligations with regard to federal jurisdiction over the environment. To facilitate the application of the NAAEC in Canada, it also entered into negotia-

tions for a Canadian Inter-government Agreement (CIA) with provincial governments. The CIA enables signatory provinces and territories to participate in the implementation, management and further development of the NAAEC, including consultations and dispute resolution.<sup>115</sup>

50. The Party notes that the CIA was signed by Quebec in December 1996. The Party concludes its discussion of the implementation of treaties in Canada by highlighting that the implementation of the NAAEC and NAFTA in Quebec is covered by the *Act respecting the Implementation of International Trade Agreements* (“ARIITA”), which entered into force on 10 July 1996.<sup>116</sup>
51. The remainder of the Response focuses on three topics: 1) the historical development of issues surrounding the reduction of emissions from automobiles in use, 2) the enforcement of ss. 96.1 and 96.2 RQA and s. 51 EQA, and 3) the educational and administrative approach to the laws at issue.

### 3.1 Historical development of issues surrounding the reduction of emissions from automobiles in use

52. Quebec provided an overview of efforts to reduce emissions in Quebec and discussed the context of related social and technical developments. In addition to these developments, the Party maintains that two significant events occurred in the 1990s, and one in the early part of 2000, that changed Quebec’s approach to the problem of reducing harmful automobile emissions. The Party maintains that ss. 96.1, 96.2, and 96.6 RQA are anti-tampering provisions which date back to the introduction of catalytic converters in automobiles. The Party states that these devices, which are only compatible with unleaded gasoline, were removed or modified by vehicle owners in the early 1980s so that they could take advantage of cheaper leaded gasoline and improved gas mileage.<sup>117</sup> Quebec notes that the temptation to neglect replacing a deteriorated anti-pollution device

remains, but states that once leaded gasoline was banned in 1990, the rate of tampering with or intentional deactivation of such pollution-control devices decreased significantly.<sup>118</sup> The Party states that this was one of the two developments in 1990 that modified governments’ approach to emissions reductions from vehicles. Today, the Party notes, only Saskatchewan, Alberta and the Northwest Territories do not have any such legislation.<sup>119</sup>

53. The Party then discusses a second development that occurred in 1990. The environment ministers at the time (federal, provincial, and territorial, with the exception of the Quebec minister<sup>120</sup>), sitting as the CCME, adopted the SMP. According to the Response, this also changed governments’ approaches to reducing vehicle emissions by pro-

113. *Ibid.* Statute of Westminster, 1931 (U.K.), 22&23 Geo V, c. 4, s. 2.

114. CIA, *supra* note 8.

115. Response, *supra* note 9 at 4.

116. *An Act respecting the Implementation of International Trade Agreements*, R.S.Q., c. M-35.2.

117. Response, *supra* note 9 at 6.

118. *Ibid.*

119. *Ibid.*

120. See note 25.



posing new measures with greater potential to reduce emissions, including the implementation of motor-vehicle I/M programs.<sup>121</sup> According to the Response, Quebec then focused its efforts and resources on the design of such a program, putting a lower priority on the enforcement of anti-tampering regulations and measures.<sup>122</sup>

54. The Party explains that this second development resulted in Quebec's taking a new approach to emissions and adopting the measures outlined in the 1990 SMP.<sup>123</sup> The Division of Air Quality of the Ministry of the Environment of Quebec became responsible for implementing the SMP in Quebec in the period 1990–2001. The Division of Air Quality also formed a steering committee to develop and implement an I/M program for light-duty vehicles. The Party notes that the committee chair's first report (the "Anctil Committee Report") was submitted in February 1995.<sup>124</sup>
55. The Response notes that following the Anctil Committee Report in 1995, the MDDEP mandated the AQLPA (i.e. the Submitter) in 1996 to organize and administer the pilot project Air for the Future and to lay the groundwork for an I/M program for light-duty vehicles in Quebec.<sup>125</sup> The pilot project involved public and private partners with an interest in such an I/M program. The project was completed in March 2001 and led to two reports containing several recommended options. The Party states that C\$2 million was allocated to the development of an I/M program from 2001 to 2003.<sup>126</sup> The Party explains that, since 2001 (at least up to 2005, the time of the Response), the MDDEP has dedicated a team of six full-time employees to the development of an I/M program:

The team, which administers an annual budget of \$415,000, is charged with implementing the most effective measures targeting the reduction of vehicle emissions. The I/M program team continues with the thinking and updates the work initiated in 1997 to build an I/M program targeting light

vehicles, and focuses on the implementation of an I/M program for heavy vehicles.<sup>127</sup>

56. Quebec explains that although it has not implemented an I/M program to date, its team in charge of the project in the Ministry is aware of new issues arising from I/M programs and is applying this knowledge to the structuring of an I/M program for light-duty vehicles in Quebec. For instance, the ministry team is working on the design of an I/M program that makes provision for the socioeconomic issues encountered in I/M programs in the United States, as well as technical developments in methods to measure vehicle emissions in Canada.<sup>128</sup>
57. With respect to socioeconomic considerations, the Party refers to a 2001 report by the United States National Research Council.<sup>129</sup> According to the latter report, I/M programs were vital in maintaining air quality but their effectiveness needed to be improved. The Party notes a finding in the report that light-duty utility vehicles with high emissions are often owned by low-income individuals, and that waivers are sometimes issued by US states to exempt them from complete repairs. Therefore, these programs were not as beneficial as they could have been. The Party states that various options are being considered by its Quebec team to avoid such issues in Quebec, including the provision of assistance for repairs, repair insurance, and an I/M program for second-hand vehicles.<sup>130</sup>
58. The Party then comments on technical developments that have occurred in vehicle emission testing methods used in I/M programs today. According to the Party, testing has traditionally been carried out by measuring tailpipe emissions, as proposed in the Air 1 Report. The Party states that such testing requires a costly and cumbersome investment. The Party notes the introduction of on-board diagnostic (OBD) testing and the improvements that have been made to automobile

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121. *Response, supra* note 9 at 7.

122. *Ibid.*

123. *Ibid.* at 6–7.

124. *Ibid.* at 7. The Anctil Committee Report is discussed in greater detail in Section 7.3.

125. *Ibid.*

126. *Ibid.*

127. *Ibid.*

128. *Ibid.* at 7–9.

129. *US NRC Report, supra* note 37 at 5 and 184.

130. *Response, supra* note 9 at 8.

emission control equipment.<sup>131</sup> The Party raises the point that all post-1998 light-duty vehicles in Canada (post-1996 in the United States) are equipped with an “OBD II” system that identifies the need for repairs. The Party notes that this is a much cheaper alternative to tailpipe emission testing, and has been adopted in other North American jurisdictions.<sup>132</sup> The Party concludes that a Quebec I/M program for light-duty vehicles, if it is not to be obsolete right from the start, ought to be two-pronged: it should include systematic OBD testing on more recent models, plus tailpipe emission measurement on a limited scale, possibly applicable to pre-1996 models. It states that current testing protocols for OBD systems present problems that have not yet been fully resolved.<sup>133</sup>

59. The Party also raises other developments such as research since the 1990s on emissions from heavy-duty vehicles. The Party notes that emissions from heavy-duty diesel vehicles (HDDV) pose an even greater problem than do those from

gasoline vehicles, and provides relevant statistics.<sup>134</sup> The Party notes the increasing evidence that public health is immediately affected by exposure to fine particulate matter (PM), which is carcinogenic and toxic. The Party also notes that diesel engines are found on 90% of the heavy-duty vehicle fleet in Canada.<sup>135</sup> The Party maintains that diesel engines produce 75% of the respirable particles (that is, PM<sub>2.5</sub>) emitted by all road transportation. The Party then states that heavy-duty vehicles, although representing only 4% of the Quebec automobile fleet, are responsible for 30% of Quebec’s CO<sub>2</sub> emissions arising from road transportation, noting that CO<sub>2</sub> is a GHG.<sup>136</sup>

60. The Party explains that the search for a solution to this problem has become an environmental priority, and the I/M program team has focused its human and material resources mainly on the development of such a program for heavy-duty vehicles.<sup>137</sup>

### 3.2 The Party’s enforcement of the EQA and the RQA

61. With respect to enforcement of the laws at issue in terms of prosecutions, the Party provides information on one relevant Quebec case in particular (the *Tremblay* case). The offence, committed in August 1996, involved a violation of s. 96.2 RQA, the anti-tampering provision of the RQA.<sup>138</sup> The prosecution occurred after a judgment in a civil action relating to a vehicle sold without a properly working catalytic converter. The judgment in the civil case was brought to the attention of MDDEP and a decision was then made to prosecute. The defendant was held to have violated s. 96.2 RQA, on the evidence that he had removed the catalytic con-

verter from a 1989 model light-duty vehicle and replaced it with a scrap yard resonator.

62. According to the Party, this case is illustrative of the legal context in which ss. 96.1 and 96.2 RQA and s. 51 EQA can be effectively enforced.<sup>139</sup> The Party also highlights the difficulties involved in prosecuting the laws at issue. The Party points out that the evidence is difficult to obtain, and that verifying that anti-pollution systems have not been removed or tampered with on all motor vehicles in Quebec would be problematic, as would the laying of criminal charges on the basis of such evidence.<sup>140</sup>

131. OBD II is regulated in the United States and Canada. An on-board diagnostic device is a computer system that monitors vehicle emissions systems and key engine components, activating a light in the vehicle if there is a failure in these components; see Environment Canada, Transportation Systems Branch, *On-Board Diagnostics II (OBD II) and Light-Duty Vehicle Emission Related Inspection and Maintenance (I/M) Programs* (Hull: Environment Canada, 2004), online: CCME <[http://www.ccme.ca/assets/pdf/jia\\_trnsprt\\_obd\\_e.pdf](http://www.ccme.ca/assets/pdf/jia_trnsprt_obd_e.pdf)> [OBD II I/M Programs].

132. *Response, supra* note 9 at 8.

133. *Ibid.* at 9.

134. *Ibid.*

135. *Ibid.*

136. *Ibid.*

137. *Ibid.* The relevant regulation came into force on 1 June 2006 (with the exception of the provisions on sanctions, which came into force on 1 September 2006); *PIEVAL Regulation, supra* note 57.

138. *Response, supra* note 9 at 10. The case is *Quebec (A.G.) v. André Tremblay*, Q006004-CA (1998). The case is not representative of prosecutions arising from roadside inspection or garage reports.

139. *Ibid.* at 10.

140. *Ibid.* at 12.

In the Response, the Party identifies two potential methods to gather evidence: roadside inspections and repair shop inspections. With respect to random roadside inspections, the Party cautions that today, since the adoption of the *Canadian Charter of Rights and Freedoms* and the *Quebec Charter of Human Rights and Freedoms*, random checks may even constitute illegal detentions.<sup>141</sup> According to the Party, inspection at repair shops is not a good option because it is not clear that the number of convictions to be obtained from such a procedure would justify the investment of resources in it.<sup>142</sup>

63. The Party then questions the relevance of the laws at issue. The anti-tampering laws introduced in 1985 related to pollution control devices compatible only with unleaded gasoline. The Party recalls that the problem of leaded gasoline was part of the rationale for the last part of the phrase in s. 96.2.<sup>143</sup> The Party concludes that, since leaded gasoline has been unavailable since 1990, this provision has become irrelevant.<sup>144</sup> The Party also recalls that s. 96.1 reflects the problem created by leaded gasoline, since it requires post-1985 light-duty vehicles

to have anti-pollution devices, and it refers to federal standards for light-duty vehicles developed during the transition from leaded to unleaded gasoline.<sup>145</sup>

64. The Party notes that the Government of Quebec has chosen to approve an I/M program for heavy-duty vehicles instead of one for light-duty vehicles. According to the Party, Quebec also wants to achieve significant decreases in automobile emissions.<sup>146</sup> The Party notes that given the limitations associated with the enforcement of ss. 96.1 and 96.2 RQA, limited government resources, recent developments in the types of fuel used, and new pollution control equipment produced by the present-day automotive industry, Quebec has made a strategic choice to concentrate on the implementation of a program to monitor and inspect emissions from the most polluting vehicles: heavy-duty vehicles, especially HDDVs. According to the Party, MDDEP prefers to align future actions with the technological, legal and social changes that have taken place since 1985.<sup>147</sup>

### 3.3 The Party's educational and administrative measures

65. The Party highlights MDDEP's various educational and administrative approaches to air quality management in transportation.<sup>148</sup> According to the Party, the educational approach encourages proper maintenance by vehicle owners of the pollution control devices in their vehicles, while the administrative approach monitors the status of pollutant emissions from the Quebec automobile fleet.<sup>149</sup> According to the Party, MDDEP has carried out several activities in order to inform and educate the general public, drivers, automobile associations, and repair shop owners about the need to monitor and inspect the condition of anti-pollution devices.<sup>150</sup>

66. The Party states that these educational activities and efforts focused on the production of documentary videotapes with background information for repair shop mechanics. According to the Party, MDDEP also visited workplace training facilities for mechanics, and designed and printed a brochure for them. The Party's efforts aimed at mechanical inspections will be covered later in the factual record. In cooperation with the Montreal Urban Community (MUC; now the *Communauté métropolitaine de Montréal-CMM*), MDDEP conducted a survey to measure the effects of automobile regulation. MUC representatives administered the survey to 500 businesses in the

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141. *Ibid.*

142. *Ibid.* This does not refer to vehicle safety inspections conducted at Quebec inspection centers for new vehicle registrations.

143. *Ibid.* at 11.

144. *Ibid.*

145. *Ibid.* at 11–12.

146. *Ibid.* at 15.

147. *Ibid.*

148. *Ibid.* at 13–14.

149. *Ibid.*

150. *Ibid.*

151. *Ibid.*

152. *Ibid.*

course of their visits. MDDEP afterwards held numerous inspection workshops on a smaller scale.<sup>151</sup> New partners were associated with these activities, such as the Quebec Municipal Police Force (*Sûreté municipale de Québec*), Environment Canada and many private sector partners.<sup>152</sup>

67. The Party outlines actions taken by MDDEP to monitor the condition of the pollution control equipment and devices found in Quebec's automobile fleet. Approximately 7,200 light-duty vehicles were reported to have been inspected in 1997 and 1998, as part of the pilot project Air for the Future.<sup>153</sup> According to the Party, these inspections were conducted on a voluntary basis to help gather statistics on the condition of motor vehicles. Owners were not assessed administrative penalties if their vehicles were discovered to be non-compliant, although they were asked to repair them.<sup>154</sup> The Party notes that MDDEP analyzed the data

gathered during the inspection campaigns,<sup>155</sup> and no increase in the numbers of disabled anti-pollution systems was recorded. The rate of non-compliance for motor vehicles noted in the Air for the Future workshops was approximately 16%.<sup>156</sup> In earlier clinics operated by MDDEP from 1988 to 1991, this rate was higher than 16%. The Party suggests that this slight decrease in non-compliance is probably a result of the improved reliability of anti-pollution systems.<sup>157</sup>

68. The Party states that it shares the Submitter's objective of significantly decreasing automobile emissions. The Party further states that, while it supports this objective, MDDEP "is responsible for delivering a simple and effective automobile emission monitoring and inspection system that achieves the greatest positive impact on the environment for a reasonable price."<sup>158</sup>

#### 4. Scope of the Factual Record

69. On 5 May 2005, the Secretariat informed the CEC Council that in light of Canada's Response, the Submission warranted the development of a factual record. The Secretariat found that the Response left open central questions raised in the Submission regarding effective enforcement of the provisions cited by the Submitter. Although Quebec has considerable flexibility in choosing its approach for enforcing and ensuring compliance with the provisions cited, Quebec has committed itself to taking measures such as those listed in NAAEC Article 5 to ensure that those provisions are effectively enforced. The Secretariat found that the central questions left open related in large measure to the assertion in the Submission that, after years of studies and stated intentions to adopt a comprehensive set of measures for enforcing those provisions, Quebec has failed to establish a firm timetable for doing so.
70. On 14 June 2006, in Council Resolution 06-07 (Appendix 1), the Council unanimously decided to

instruct the Secretariat to develop a factual record with respect to the following matters raised in submission SEM-04-007 concerning the alleged failure to effectively enforce ss. 96.1 and 96.2 RQA and ss. 19.1 and 51 EQA:

- the history and context of the development of the above-noted environmental laws, up to the time of their enactment; and
  - the measures taken by Quebec to enforce the above-noted environmental laws (including education programs, inspection campaigns, and the development of a heavy-duty vehicle inspection and maintenance program), as well as the history and context of the adoption of those measures.
71. Although s. 20 EQA is included as one of the laws at issue in the Submission and later in the Secretariat's Notification to Council, the Council noted in the preamble and the body of Council Resolution 06-07 that "section 20 of the [EQA] is not applicable

153. *Ibid.*

154. *Ibid.* at 14. The process for the enforcement of the EQA is not criminal in nature; it relies on administrative sanctions.

155. *Ibid.*

156. *Ibid.* The standards used to determine the failure rate were the hydrocarbon (HC) and carbon monoxide (CO) standards used by Environment Canada for its 1991 inspection clinics; *Air 1, supra* note 49 at 25 and 28.

157. *Ibid.* at 14.

158. *Ibid.*



to the facts raised in the Submission.”<sup>159</sup> Section 20 provides that:

No one may emit, deposit, issue or discharge or allow the emission, deposit, issuance or discharge into the environment of a contaminant in a greater quantity or concentration than that provided for by regulation of the Government.

The same prohibition applies to the emission, deposit, issuance or discharge of any contaminant the presence of which in the environment is prohibited by regulation of the Government or is likely to affect the life, health, safety, welfare or comfort of human beings, or to cause damage to or otherwise impair the quality of the soil, vegetation, wildlife or property.

Pursuant to the Council’s instructions, this factual record does not include information on s. 20 EQA.

72. In accordance with Council Resolution 06-07, the factual record includes information on the following:

- additional facts and information relevant to the Submission and its assertions;<sup>160</sup>
- the history of efforts to reduce motor vehicle emissions in Quebec;<sup>161</sup>
- the history and context of the laws at issue;<sup>162</sup>
- the enforcement of anti-tampering laws;<sup>163</sup> and

## 5. Information-gathering process

76. As instructed by the Council in Council Resolution 06-07, on 5 July 2006 the Secretariat published an overall plan for the preparation of the factual record (Appendix 3). The work plan set forth the Secretariat’s intention to gather factual information relevant to the alleged failure to effectively enforce ss. 96.1 and 96.2 RQA and ss. 19.1 and 51 EQA. The Secretariat proposed to gather information from the Party and the Submitter regarding “the history and context of the development of the

- other measures taken by Quebec to reduce automobile pollution, including heavy-duty vehicle pollution.<sup>164</sup>

73. With respect to the last item above, this factual record includes information provided by the Party on roadside and repair shop inspections, educational and administrative measures, resources allocated for control of light-duty motor vehicle emissions, and heavy-duty vehicle emission programs.

74. The Council directed the Secretariat to provide the Parties with an overall work plan for gathering relevant facts and also to provide the Parties with an opportunity to comment on the plan. The Council further directed the Secretariat that, in preparing the factual record, it may include any relevant facts that existed before the entry into force of the NAAEC on 1 January 1994.

75. Article 15(4) of the NAAEC sets out the information gathering process in developing a factual record: “the Secretariat shall consider any information furnished by a Party and may consider any relevant technical, scientific or other information: (a) that is publicly available; (b) submitted by interested nongovernment organizations or persons; (c) submitted by the Joint Public Advisory Committee; or (d) developed by the Secretariat or by independent experts.”

above-noted environment laws, up to the time of their enactment; and the measures taken by Quebec to enforce the above-noted environmental laws (including education programs, inspection campaigns, and the development of a heavy-duty vehicle inspection and maintenance program), as well as the history and context of the adoption of those measures.”<sup>165</sup> The NAAEC Parties did not provide comments on the proposed work plan.

159. Council Resolution, *supra* note 12 at 2.

160. Section 6 of the Factual Record.

161. Section 7 of the Factual Record.

162. Section 8 of the Factual Record.

163. Section 9 of the Factual Record.

164. Section 10 of the Factual Record.

165. Secretariat of the Commission for Environmental Cooperation, *Overall Plan to Develop a Factual Record* (5 July 2006), A14/SEM/04-007/28/FR-OP, online: CEC <[http://www.cec.org/Storage/75/6931\\_04-7-FR-OP\\_en.pdf](http://www.cec.org/Storage/75/6931_04-7-FR-OP_en.pdf)>, at 2.

77. On 1 September 2006, in accordance with NAAEC Articles 15(4) and 21(1)(a) governing the inclusion of information in a factual record, the Secretariat published a "Request for Information" (Appendix 4). Copies were sent to the Parties, the Submitter, the Joint Public Advisory Committee, and the Government of Quebec. The Request for Information was also published on the CEC website. The Parties and others interested in the Submission were requested to provide the Secretariat with any information relevant to the history of ss. 96.1 and 96.2 RQA and ss. 19.1 and 51 EQA, up to the time of their enactment, and any information related to measures taken by Quebec to enforce these laws.<sup>166</sup>
78. The Government of Quebec, specifically MDDEP, provided the Secretariat with information on 27 November 2006.<sup>167</sup> The latter information concerned the enactment and enforcement of the laws in question, as well as Quebec's other measures to inform and educate the public about the problem. The documents contained information on I/M program development and inspections, as well as information on legislative developments, including parliamentary debates, and memos and notes on the RQA and the EQA.
79. The Secretariat retained the services of an independent expert, Sierra Research, Inc. from Sacramento, California for assistance in developing technical information for the factual record.<sup>168</sup> Sierra Research produced a report on air quality, vehicle pollution, and control measures, covering scientific and technological information, emissions and pollution control devices in vehicles, and I/M measures for light-duty vehicles, including Quebec-specific information on air quality and emissions. The report ("Sierra Report") was delivered to the Secretariat on 28 February 2007 (Appendix 5).<sup>169</sup> The Secretariat then commissioned a peer review of the Sierra Report by the Deputy Director of Northern States for Coordinated Air Use Management (NESCAUM), Paul J. Miller.<sup>170</sup> Mr. Miller presented his opinion on the work of the independent expert in a memo to the Secretariat on 27 April 2007.<sup>171</sup>
80. In November 2007, Bruce Walker, Research Director of STOP, a Quebec-based environmental organization specializing in air quality research, responded to the public request for information. Mr. Walker provided several binders of documents and materials as background information on automobile emission programs, including documents related to motor vehicle inspection in Quebec. The materials also included government codes and reports, hard-copy materials produced in Quebec (not available online) pertaining to vehicle emissions and the environment, in-depth information on I/M programs implemented by other jurisdictions, and other memoranda (not available online), together providing extensive historical background for Quebec's efforts with respect to I/M programs for light-duty vehicles.
81. On 15 June 2008, the Secretariat obtained independent advice from a consultant, Franklin Gertler, a Quebec lawyer with experience in environmental law. On 24 July 2008, the Secretariat requested supplemental information from the Party and the Submitter (Appendix 6). MDDEP provided Supplemental Information on 22 September 2008 (Appendix 6). This included information about MDDEP's budget and further details regarding measures taken to enforce the laws at issue. The Submitter provided factual information in reply to the Request for Information on 29 October 2008 ("2008 Supplemental Information"), and provided a correction on 5 November 2008 (Appendix 6). The Submitter did not make new assertions but did provide information on the development of the law and the measures taken by Quebec with regard to the relevant Council resolution.

166. Secretariat of the Commission for Environmental Cooperation, *Request for Information for Preparation of a Factual Record, Submission SEM-04-007 (Quebec Automobiles)* (1 September 2006), online: CEC <[http://www.cec.org/Storage/75/6934\\_04-7-Infrequest\\_en.pdf](http://www.cec.org/Storage/75/6934_04-7-Infrequest_en.pdf)>.

167. *Information provided by Quebec, 2006, supra* note 43. The information provided is classified into two sets of documents, the first relates to the development of the laws at issue and their enforcement (tabs 1 through 19), while the second refers to education and public awareness activities undertaken in application of the laws at issue or supported by the government (tabs A through H).

168. Sierra Research, Inc., *Air Pollution Research and Control*, based in Sacramento, California, online: <<http://www.sierraresearch.com>>.

169. Sierra Research, Inc., *SEM-04-007 (Quebec Automobiles): Data for the Factual Record* (Sacramento: Sierra Research, 2007) [*Sierra Report*]. The Secretariat did not include the conclusion section of the Sierra Report as that section did not contain facts relevant for the factual record. The Secretariat has attempted to only include information of a factual nature in this factual record, rather than expert opinions or recommendations, in line with the Parties' comments regarding the *Factual Record, Ontario Logging Submission (SEM-02-001) & Ontario Logging II Submission (SEM-04-006)* (Montreal: CEC, 2007), online: CEC <[http://www.cec.org/Storage/72/6583\\_CCE\\_21\\_english.pdf](http://www.cec.org/Storage/72/6583_CCE_21_english.pdf)> [*Ontario Logging Factual Record*].

170. See "Staff", NESCAUM, online: NESCAUM <<http://www.nescaum.org/about-us/staff>>.

171. Paul J. Miller, "Data for the Factual Record SEM-04-007 (*Quebec Automobiles*)", memo on file with the Secretariat (27 April 2007).

82. The Secretariat then requested further supplemental information from the Party on 19 December 2008 (Appendix 7). On 13 March 2009, Mexico responded to the Secretariat's request for information, stating that it did not have relevant information for the development of the factual record. The United States did not provide a response to the Secretariat's request for information. In April 2009 the Secretariat obtained independent advice from another consultant, Yvan Biron, a partner in the Montreal law firm Lavery, de Billy. Mr. Biron provided the Secretariat with information about the history and legal context of the laws at issue. The

Party replied with further supplemental information on 12 May 2009 ("2009 Supplemental Information"). This information included further details on Quebec's heavy-duty inspection program and its results.

83. In preparing the factual record, the Secretariat sought to gather all information relevant to the Submitter's assertions. The Secretariat sought to include background information on the history and context of the laws at issue as well as the Party's enforcement measures over a twenty-year period starting in 1985.

## 6. Factual and scientific context for motor vehicle emissions

84. This section presents additional facts relating to motor vehicle emissions that are relevant to the factual record. It includes a scientific and technical description of transportation-related air pollution, presents data on light-duty and heavy-duty vehicle emissions and their health effects in Canada and Quebec, and provides information on emission control technologies and programs. These

facts are intended to provide the reader with background information and the necessary context to reach his or her own conclusions from this factual record. As mentioned above, the Secretariat derived the information on the facts in question from various sources, including the Party, the Submitter, a report by independent experts,<sup>172</sup> and the Secretariat's own research.

### 6.1 Transportation-related air pollution in Canada and Quebec

85. Environment Canada's Federal Agenda for Vehicles and Fuels states that the use of internal combustion engines to power vehicles and equipment, and the burning of fuel oils, contribute significantly to air pollution in Canada, particularly in urban areas. Emissions from transportation include NO<sub>x</sub>, hydrocarbons such as VOCs, sulfur dioxide (SO<sub>2</sub>), CO, GHGs, PM, benzene, 1, 3-butadiene, formaldehyde, acetaldehyde, and other toxic or potentially toxic substances.<sup>173</sup> These emissions are primarily a function of vehicle/engine technology and the properties of fuels.

86. Health Canada describes the primary air pollutants contained in vehicle exhaust gases and their health effects as follows:<sup>174</sup>

- NO<sub>x</sub> include a number of gases composed of oxygen and nitrogen. At elevated levels, NO<sub>x</sub> can impair lung function, irritate the respiratory system and, at very high levels, make breathing difficult, especially for people who already suffer from asthma or bronchitis.
- Hydrocarbon pollution such as VOCs results from both engine exhaust and direct fuel evaporation. VOCs include known carcinogens like benzene.
- SO<sub>2</sub> at relatively high levels of exposure can cause breathing problems in people with asthma. There is evidence that exposure to elevated SO<sub>2</sub> levels may increase hospital admissions and premature deaths.
- The principal human source of CO is fuel combustion, primarily in vehicles. CO concen-

172. *Sierra Report*, *supra* note 169.

173. "Government Notices, Department of the environment, Federal Agenda for Cleaner Vehicles, Engines and Fuels", *Canada Gazette* 135:7 (17 February 2001), Part I, 452-457, online: Canada Gazette <<http://www.gazette.gc.ca/archives/p1/2001/2001-02-17/html/notice-avis-eng.html>>.

174. "Let's Talk about Health and Air Quality", Health Canada, online: Health Canada <[http://www.hc-sc.gc.ca/ewh-semt/air/out-ext/effe/talk-a\\_propos-eng.php#volatile](http://www.hc-sc.gc.ca/ewh-semt/air/out-ext/effe/talk-a_propos-eng.php#volatile)> [*Let's Talk*].

175. "Programme d'inspection et d'entretien des véhicules automobiles lourds", MDDEP, online: MDDEP <<http://www.mddep.gouv.qc.ca/air/pieval/index.htm#encadre-polluant>> [*MDDEP PIEVAL*].

trations are much higher in urban areas due to the number of human sources. CO is an odorless gas which, when inhaled, reduces the body's ability to use oxygen. Health effects associated with relatively low-level, short-term exposure to CO include decreased athletic performance and aggravated cardiac symptoms. At the levels typically found in large cities, CO may increase hospital admissions for heart diseases, and there is also evidence of an association with premature deaths.

- PM is made up of very small solids and/or liquids which vary widely in chemical composition and size. The size of particles ranges from 0.005 microns ( $\mu\text{m}$ ) to 100  $\mu\text{m}$  in diameter. (A strand of human hair is about 100  $\mu\text{m}$  wide.) Particles found floating in air (total suspended particulates, or TSPs) are generally less than 40  $\mu\text{m}$ .  $\text{PM}_{10}$  are particles 10  $\mu\text{m}$  or less in diameter and are split into coarse particles ( $\text{PM}_{2.5-10}$ ) and fine particles ( $\text{PM}_{2.5}$ ).  $\text{PM}_{2.5}$  are made up of particles with diameters of 2.5  $\mu\text{m}$  or less; they pose the greatest threat to human health because they can travel deepest into the lungs. Short-term exposure to airborne particles at the levels typically found in urban areas in North America is associated with a variety of adverse effects. Particulates can irritate the eyes, nose and throat and cause coughing, breathing difficulties, reduced lung function, and increased use of asthma medication. Exposure to particulates is also associated with an increase in emergency department visits, hospitalizations of people with heart and respiratory disease, and premature deaths.

87. According to the Heavy-duty Vehicle Inspection and Maintenance Program (PIEVAL) established by the Quebec government, the fine particles found in the black exhaust from HDDVs are toxic substances that cause health problems including asthma, chronic bronchitis, emphysema, heart failure, and lung cancer.<sup>175</sup>
88. In addition to the pollutants that motor vehicles and fuels emit directly to the atmosphere, some of the emissions from vehicles and fuels combine with each other and with other chemicals in the atmosphere, both locally and where transported by wind, to create secondary pollutants involved in the formation of smog and acid rain.

89. Smog is the mixture of airborne chemicals often visible as a haze hanging over cities. Smog can travel long distances in the atmosphere. One component of smog is ground-level ozone ( $\text{O}_3$  or "ozone"), while another consists of fine particles. Ground-level ozone forms in the air when NO is emitted and converts to  $\text{NO}_2$ , which then absorbs sunlight and combines with oxygen gas ( $\text{O}_2$ ) to form  $\text{O}_3$ . When hydrocarbons or VOCs are emitted in the same area, their presence provides another pathway for NO to react and form ozone, thereby leading to significantly higher ozone levels than occur in the  $\text{NO}_x$ -ozone equilibrium alone. Because the formation of ozone is complex, decreasing  $\text{NO}_x$  emissions in urban areas can both reduce the local ambient NO levels and increase local ozone levels. This effect may be more pronounced in urban areas which are affected by ozone that is transported into the area. Downwind from the urban area, however, the reductions in emissions could lead to less ozone formation.<sup>176</sup>
90. Another component of smog is airborne particles. Fine and coarse particles are distinct in their emission sources, formation processes, chemical composition, atmospheric residence times, transportation distances, and other parameters. Fine particles, while directly emitted from combustion sources like vehicles, are also formed secondarily from the gaseous precursors  $\text{NO}_x$ , VOCs,  $\text{SO}_2$ , and ammonia. Fine particles are generally composed of sulfate, nitrate, chloride, and ammonium compounds, organic and elemental carbon, and metals. They can remain in the atmosphere for days to weeks and can travel through the atmosphere hundreds to thousands of kilometers, whereas coarse particles typically deposit to the earth within minutes to hours and within ten kilometers from the emission source.<sup>177</sup>
91. Ozone and PM levels measured at a given location depend on a number of other factors besides precursor emissions at that location. These include prevailing meteorological conditions, chemical processes, wind direction and associated transportation of ozone and PM and their precursor emissions into the community from upwind sources, as well as long-range travel of these pollutants. Mere comparison of local ozone or PM levels with local ambient levels of precursors is therefore not suffi-

176. *Let's Talk*, *supra* note 173.

177. *Canada Five-Year Progress Report*, *supra* note 34 at vi, 3.



cient to account for ozone or PM trends. At the same time, modeling and observational analysis continue to support the view that reductions in precursor emissions through specific measures will help improve air quality.<sup>178</sup>

92. In 2006, Quebec had approximately 4.5 million cars on the road, including pick-up trucks, minivans, and sport utility vehicles (SUVs).<sup>179</sup> According to Environment Canada, ignoring diffuse particle sources such as roads (open sources)

and forest fires (natural sources), the transportation sector in Quebec in 2006 contributed 85% of provincial NO<sub>x</sub> emissions, 42% of VOCs, and 19% of PM<sub>2.5</sub>.<sup>180</sup> In 2005, road transportation (cars, trucks and buses) accounted for 80% of the transportation sector emissions and for 31% of total Quebec GHG emissions<sup>181</sup>. Table 1 presents the most recently published national emission inventory from Environment Canada (2007), illustrating anthropogenic sources of pollutants.<sup>182</sup>

**Table 1: Total criteria air contaminant emissions in Quebec, 2007<sup>183</sup>**

Sector	TPM (t)	PM <sub>10</sub> (t)	PM <sub>2.5</sub> (t)	SO <sub>x</sub> (t)	NO <sub>x</sub> (t)	VOC (t)	CO (t)
Total industrial sources	103,074	33,099	17,868	144,631	42,053	36,663	382,601
Total non-industrial sources	52,061	48,822	48,425	14,880	24,656	69,910	328,345
Total mobile sources	12,449	12,339	10,931	20,466	202,168	118,360	1,450,711
Total incineration	87	22	14	1,178	1,182	550	2,535
Total miscellaneous	1,998	1,998	1,993	no data	no data	101,953	1,076
<b>Total (excluding open and natural sources)</b>	<b>169,669</b>	<b>96,280</b>	<b>79,231</b>	<b>181,156</b>	<b>270,058</b>	<b>327,437</b>	<b>2,165,268</b>

93. The mobile sources indicated in Table 1 include on-road vehicles, off-road vehicles and engines, marine vessels, rail, and aviation. On-road vehicles include cars, minivans, SUVs, trucks, buses, and motorcycles. Off-road vehicles include all-terrain vehicles, snowmobiles, and recreational watercraft, as well as lawnmowers, leaf blowers, and agricultural, mining, and construction equipment.

94. Each of the various mobile sources produces differing emissions. Table 2 below details the most recently published emissions statistics from Environment Canada for the transportation sector in Quebec. In this connection, based on the 2007 Environment Canada mobile source emissions inventory for Quebec, HDDVs are by far the largest source of particulate matter (in all sizes) and NO<sub>x</sub> emissions while light-duty gasoline trucks and vehicles are the largest source of CO and VOC emissions.

178. *Ibid.* at vi, 4.

179. *Transportation and Climate Change*, *supra* note 62.

180. "Pollution Sources in Quebec", Environment Canada, online: Environment Canada <<http://www.ec.gc.ca/air/default.asp?lang=En&xml=D63BEDFE-FBB1-45E6-9224-0C00E4818E75>>.

181. *Transportation and Climate Change*, *supra* note 62.

182. MDDEP, "Inventaire des émissions atmosphériques", online: MDDEP <[http://www.mddep.gouv.qc.ca/air/inventaire/inventaire\\_emissions.htm](http://www.mddep.gouv.qc.ca/air/inventaire/inventaire_emissions.htm)>. MDDEP indicates that the data are not source measurements, but estimates developed by Environment Canada in cooperation with MDDEP using the Mobile 5C model.

183. Canada established the National Pollutant Inventory in 1992. Emissions inventories provide an assessment of the relative contribution of various anthropogenic and natural sources of emissions for different time periods. The comprehensive emissions inventories are compiled by Environment Canada in collaboration with the provinces and territories. These inventories consider more than 60 industrial and non-industrial categories of emissions of air pollutants, known as criteria air contaminants (CAC) and toxic pollutants. See Environment Canada data on 2007 emission trends for key air pollutants for Quebec (Version 1, April 2009), available at Environment Canada, "National Pollutant Release Inventory (NPRI) downloadable datasets", online: Environment Canada <<http://www.ec.gc.ca/inrp-npri/default.asp?lang=en&n=0EC58C98-1>> [*Environment Canada NPRI*].

**Table 2: Total criteria air contaminant emissions from mobile sources in Quebec, 2007<sup>184</sup>**

Mobile Source	TPM	PM <sub>10</sub> (t)	PM <sub>2.5</sub> (t)	SO <sub>x</sub> (t)	NO <sub>x</sub> (t)	VOC (t)	CO (t)
Air transportation	172	174	168	729	10,667	1682	10,171
Heavy-duty diesel vehicles (HDDV)	1,464	1,464	1,348	196	52,489	2118	12,130
Heavy-duty gasoline trucks	38	36	32	10	2,805	741	9,894
Light-duty diesel trucks	70	70	64	10	742	328	605
Light-duty diesel vehicles	50	50	46	5	514	158	650
Light-duty gasoline trucks	96	93	81	120	18,625	18,877	342,230
Light-duty gasoline vehicles	135	131	122	170	23,696	27,315	482,322
Marine transportation	2,238	2,149	1,977	17,435	23,304	791	1,956
Motorcycles	8	7	5	1	430	806	5699
Off-road diesel engines	4,617	4,617	4,479	1,576	51,708	5,184	25,981
Off-road gasoline/LPG/CNG engines	2,058	2,058	1,896	24	8,050	59,983	557,709
Rail transportation	337	337	310	190	9,138	246	1,364
Tire and brake lining wear	1,166	1,153	403	no data	no data	no data	no data
<b>TOTAL – MOBILE SOURCES</b>	<b>12,449</b>	<b>12,339</b>	<b>10,931</b>	<b>20,466</b>	<b>202,168</b>	<b>118,360</b>	<b>1,450,711</b>

95. From 1990 to 2005, according to *Ministère des Transports du Québec*, GHG emissions from transportation in Quebec increased by 24.8%, or 6.95 million tonnes, due mainly to road transportation.<sup>185</sup> Overall, since 1990, emissions from gasoline-powered light trucks (e.g., pickups, SUVs, minivans) increased by 105%, while GHG emissions from gasoline automobiles (i.e., subcompacts, compacts, mid- and family-sized cars) dropped 12%.<sup>186</sup> When both latter categories are combined, the result is a total increase of 16%.<sup>187</sup> GHG emissions from HDDVs have increased by 95% since 1990.<sup>188</sup>

96. According to the annual report of the Public Health Division of the Montreal-Centre Public Health and Social Services Department,<sup>189</sup> 800,000 light-duty vehicles were registered in Montreal in 2000. The report further notes that service stations

sell approximately 1 billion liters of gasoline each year. These vehicles and their fuel contribute to the concentrations of ozone, nitrogen oxides, and volatile organic compounds in the air. Moreover, they account for nearly 50% of total CO<sub>2</sub> emissions from the region. The annual report found as well that over 1 million daily trips were recorded between Montreal and surrounding areas in 1998, equivalent to a daily inflow of over 510,000 vehicles to Montreal island. This adds to the 3.2 million trips made daily within the island. While automobile trips increased by nearly 44% between 1987 and 1998, trips by public transportation declined by over 12%.<sup>190</sup>

97. Environment Canada annually publishes criteria air contaminant emission inventories for every province and territory.<sup>191</sup> These inventories for Quebec include emission estimates for select cal-

184. *Ibid.*

185. *Transportation and Climate Change*, *supra* note 62.

186. *Ibid.*

187. *Ibid.*

188. *Ibid.*

189. Direction de la santé publique, Régie régionale de la santé et des services sociaux de Montréal-Centre, *La santé urbaine: une condition nécessaire à l'essor de Montréal* (Montréal: Direction de la santé publique, Régie régionale de la santé et des services sociaux de Montréal-Centre, 2002), online: Agence de la santé et des services sociaux de Montréal <[http://publications.santemontreal.qc.ca/uploads/tx\\_assmpublications/2-89494-367-9.pdf](http://publications.santemontreal.qc.ca/uploads/tx_assmpublications/2-89494-367-9.pdf)>, at 29.

190. *Ibid.* at 29, 30.

191. *Environment Canada NPRI*, *supra* note 183. On its site, Environment Canada specifies regarding this data: "The air pollutant emissions data was compiled in collaboration with provincial, territorial and regional environmental agencies using the latest emission estimation methodologies and statistics available, and data reported by facilities to the National Pollutant Release Inventory."

endar years from 1990 to 2015.<sup>192</sup> These are presented in Table 3 below. The estimates show that on-highway and on-road vehicles account for a significant proportion of total HC (or VOCs) and NO<sub>x</sub> emissions. As discussed above, the latter are important pollutants because they lead to the formation of ground-level ozone and secondary PM<sub>2.5</sub> pollution—the main components of smog. Environ-

ment Canada estimates that between 10% and 30% of HC emissions in Quebec as well as between 30% and 47% of NO<sub>x</sub> emissions are from on-highway or on-road sources. On-highway sources also emit a significant portion of the CO inventory but only a minor portion of the directly emitted PM<sub>2.5</sub>, as noted in Table 3 below.

**Table 3: Quebec emission inventory 1990–2015, prepared by Sierra Research Inc., tonnes/year (t/y)<sup>193</sup>**

Pollutant	Calendar year	On-highway Sources (t/y)	All other sources (t/y)	On-highway portion of total (percent)
NO <sub>x</sub>	1990	161,265	180,694	47
	1995	146,451	185,162	44
	2000	125,409	182,089	41
	2002	131,518	184,114	42
	2010	98,742	180,761	35
	2015	74,206	169,791	30
HC	1990	129,303	301,383	30
	1995	99,494	283,906	26
	2000	79,648	298,656	21
	2002	72,292	289,294	20
	2010	43,721	316,386	12
	2015	34,089	316,216	10
CO	1990	1,905,663	1,024,567	65
	1995	1,554,357	1,149,651	57
	2000	1,280,962	1,126,258	53
	2002	1,181,097	1,177,410	50
	2010	827,697	1,296,821	39
	2015	794,337	1,324,648	37
PM <sub>2.5</sub>	1990	3,834	86,331	4
	1995	4,746	70,665	6
	2000	2,509	78,076	3
	2002	2,833	93,203	3
	2010	2,013	89,232	2
	2015	1,760	91,214	2

98. In Table 4, the estimates from Table 3 are broken down into light-duty and heavy-duty vehicles.<sup>194</sup> Of the emission totals for these two categories of vehicles, the light-duty fleet emits almost the entirety of the on-highway HC and CO (90% or

more), a significant but decreasing portion of NO<sub>x</sub> (from 74% in 1990 to an estimated 42% in 2015), and an increasing proportion of the directly emitted PM<sub>2.5</sub> (from 28% in 1990 to an estimated 35% in 2015).

192. *Ibid.* See also *Sierra Report*, *supra* note 169 at 13; and *Canada Five-Year Progress Report*, *supra* note 34, fig. 7.

193. *Sierra Report*, *supra* note 169 at 13.

194. *Ibid.* at 14.

**Table 4: Light-duty and heavy-duty vehicle emissions inventory for Quebec, prepared by Sierra Research Inc., tonnes/year (t/y)<sup>195</sup>**

Pollutant	Calendar year	Light-duty on-highway (t/y)	Heavy-duty on-highway (t/y)	Light-duty portion of total (%)
NO <sub>x</sub>	1990	119,237	42,028	74
	1995	88,269	58,182	60
	2000	69,412	55,997	55
	2002	62,621	68,897	48
	2010	40,763	57,979	41
	2015	31,130	43,076	42
HC	1990	123,081	6,222	95
	1995	95,353	4,141	96
	2000	77,030	2,618	97
	2002	68,675	3,617	95
	2010	40,602	3,119	93
	2015	30,707	3,382	90
CO	1990	1,839,143	66,520	97
	1995	1,518,106	36,251	98
	2000	1,260,570	20,392	98
	2002	1,152,419	28,678	98
	2010	806,611	21,086	97
	2015	774,912	19,425	98
PM <sub>2.5</sub>	1990	1,084	2,751	28
	1995	1,295	3,452	27
	2000	746	1,764	30
	2002	680	2,154	24
	2010	548	1,465	27
	2015	608	1,152	35

99. Moreover, a 2003 study stated that as much as 15% of the automobile fleet in Canada dates to before 1988 and has been poorly maintained.<sup>196</sup> The Submitter, AQLPA, expressed a similar concern at Quebec’s formal announcement on 2 June 2006 of the establishment of roadside tests for heavy-duty vehicles:

[A]ll our neighbours have such programs [for light-duty vehicles]. One of the major problems is that hundreds if not thousands of old jalopies rejected in Ontario, for example, are finding their way onto Quebec roads, adding to the existing fleet of cars that are old and poorly maintained.<sup>197</sup>

100. Canadian well-being indicators found in transportation projections suggest that as the Canadian population grows, the number of vehicle-kilometres travelled by on-road vehicles will likewise increase. This could begin to counteract the emission reduction benefits derived from vehicle emission regulations, improved vehicle technology, and improved fuel content, and it could have impacts on PM and ozone emission patterns due to transboundary movement and background levels.<sup>198</sup>

195. *Ibid.*

196. E. Martin *et al.*, *Summary of the 2003 LET’S DRIVE GREEN Vehicle Emissions Inspection Clinics* (Gatineau: Environment Canada, 2003).

197. André Bélisle, AQLPA, cited in Michelle Lalonde, “Vehicle Tests Under Way,” *The Montreal Gazette* (2 June 2006) at A3.

198. Human Resources and Skills Development Canada (HSRDC), “Indicators of Well-being in Canada: Environment – Transportation”, online: HSRDC <[http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=67#M\\_2](http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=67#M_2)>; *Canada Five-Year Progress Report*, *supra* note 34 at 25.



## 6.2 Air quality in Canada and Quebec

101. As noted above, although it is not a signatory to the *Canada-wide Environmental Standards Sub-Agreement*,<sup>199</sup> Quebec has undertaken to act in “harmony with the other jurisdictions with regard to its air quality standards.”<sup>200</sup> MDDEP has set the CWS as the targets to be achieved by 2010 for the six Quebec census metropolitan areas with populations of 100,000 or more.<sup>201</sup>
102. MDDEP describes PM<sub>2.5</sub> and ozone as two of the principal pollutants likely to have adverse health consequences for the general population.<sup>202</sup> MDDEP also recognizes that NO<sub>x</sub> and HC (or VOC) emissions are key precursors to both ozone and PM<sub>2.5</sub> pollution, and that local emission sources as well as migration of pollutants into the province are responsible for elevated ambient concentrations of these substances.<sup>203</sup> Finally, MDDEP lists the CWS targets for these two pollutants on its web page discussing ozone and PM<sub>2.5</sub> pollution.<sup>204</sup>
103. Air quality monitoring stations are located across Canada and are managed by provinces, municipalities, territories, and Environment Canada.<sup>205</sup> Almost all stations collecting ground-level ozone and PM<sub>2.5</sub> data are organized under the National Air Pollution Surveillance program (NAPS), a cooperative arrangement among the federal government, provinces, and territories dating to 1970.<sup>206</sup> The goal of the NAPS program is to provide accurate and long-term air quality data of a uniform standard throughout Canada. Data from the NAPS network are stored in the Canada-wide Air Quality Database and are published in annual air quality data summary reports.<sup>207</sup> The database also includes ground-level ozone data information from the Canadian Air and Precipitation Monitoring Network (CAPMoN) run by Environment Canada. The CAPMoN stations were established for research purposes and monitor air pollution outside urban areas.<sup>208</sup>
104. These air quality monitoring stations appear to have been useful in tracking progress toward achievement of the CWS targets for PM and ozone.<sup>209</sup> For Quebec in particular, air quality monitoring stations in Gatineau, Montreal, Quebec City, Sherbrooke, Trois-Rivières, and Saguenay provide useful information for the purposes of the CWS.<sup>210</sup>
105. The MDDEP 2001–2005 progress report on the CWS stated that by 2005, Quebec had not yet attained the numerical targets for ozone and PM concentration set for 2010.<sup>211</sup> The Quebec results as regards attainment of the CWS targets for 2000 to 2005 show that, in the Montreal metropolitan area, five of the six sub-areas measured had fine particulate matter indicators over the 2010 standard of 30 µg/m<sup>3</sup>. The indicators were below the 30 µg/m<sup>3</sup> standard in the remaining metropolitan areas in Quebec. The ozone results for the same period show that four of the six metropolitan areas exceeded the target of 65 parts per billion (ppb) which had been set for 2010.<sup>212</sup> In Montreal most of the reporting sub-areas were over the target.<sup>213</sup> The 2009 MDDEP report on the CWS shows that Quebec attained the CWS numerical targets for PM but not for ozone.<sup>214</sup> The same report indicates that for the period 2006–2008, the particulates indicators were all below the standard of 30 µg/m<sup>3</sup> set for 2010, and that only two sub-areas of Montreal were

199. *Environmental Standards Sub-agreement*, *supra* note 32.

200. *Quebec Five-Year Progress Report*, *supra* note 35 at 1; *Canada Five-Year Progress Report*, *supra* note 34.

201. *Quebec Five-Year Progress Report*, *supra* note 35 at 2.

202. *Ibid.*; see also *Response*, *supra* note 9 at 9.

203. *Quebec Five-Year Progress Report*, *supra* note 35 at 2, 8.

204. *MDDEP Ozone*, *supra* note 33.

205. *NAPS*, *supra* note 19; Statistics Canada, “Data Sources”, online: Statistics Canada <<http://www.statcan.gc.ca/pub/16-254-x/2007000/4181221-eng.htm>> [Data Sources].

206. *Data Sources*, *supra* note 205.

207. *Ibid.*

208. *Ibid.*

209. *Quebec Five-Year Progress Report*, *supra* note 35, at appendix 2.

210. *Ibid.*

211. *Quebec Five-Year Progress Report*, *supra* note 35 at 10.

212. *Ibid.* at 2. The six census metropolitan areas (cities with a population of 500,000 or more) are Montreal, Quebec, Gatineau, Saguenay, Sherbrooke, and Trois-Rivières.

within 10% of the standard (27–30 µg/m<sup>3</sup>). The report adds that an improvement in the PM indicator was observed for all census metropolitan areas between 2005 and 2008. However, the report indicates that for the same period, the indicators for ozone in the Gatineau metropolitan area and three of the eight reporting sub-areas in the greater Montreal area exceeded the standard of 65 ppb established for 2010.

106. In January 2007, Environment Canada released a five-year progress report on implementation of the CWS in Canada, including Quebec, from 2001 to 2005.<sup>215</sup> For the pollutant PM<sub>2.5</sub>, the report provides a summary of the 98<sup>th</sup> percentile PM<sub>2.5</sub> concentrations from 65 monitoring stations nationally, over the years 2003–2005.<sup>216</sup> The results are compared to the CWS levels. Across Canada, 18 monitoring stations recorded levels higher than the PM<sub>2.5</sub> CWS of 30 µg/m<sup>3</sup> for this three-year period: 2 in British Columbia (out of 19 monitoring stations in the province), 11 in Ontario (out of 15), and 5 in Quebec (out of 11). Two Quebec monitoring stations located in Montreal had the highest PM<sub>2.5</sub> concentrations in the country: 38 and 40 µg/m<sup>3</sup>. All five of the Quebec monitoring stations with above-standard levels were in Montreal. The monitoring stations in the four remaining Quebec metropolitan areas were below the CWS for PM<sub>2.5</sub>, while the Gatineau monitor reported no PM<sub>2.5</sub> results.
107. For the ozone CWS targets, the Environment Canada Progress Report provides a summary of the fourth highest average eight-hour ozone concentrations from 80 monitoring stations nationally for the period 2003–2005.<sup>217</sup> Thirty monitoring stations had levels higher than the eight-hour ozone CWS of 65 ppm: 28 in Ontario and Quebec and one each in British Columbia and Nova Scotia. Eleven out of 14 monitoring stations in Quebec had levels above the CWS.<sup>218</sup> The two highest ozone values in Quebec were recorded in Gatineau and Montreal. The remaining nine monitors with levels above CWS were located in Montreal, Sherbrooke, and Trois-Rivières. The three Quebec monitors with levels below CWS for 2003–2005 were located in Quebec City and Saguenay. Overall, four of six metropolitan areas in Quebec had levels higher than the CWS for ozone from 2003 to 2005.<sup>219</sup>
108. The Environment Canada CWS progress report presents the annual air quality trends as well, for PM<sub>2.5</sub> and ozone respectively, averaging the monitors within each province and territory.<sup>220</sup> For PM<sub>2.5</sub>, there is no discernible trend for 2001–2005 because air quality data were available for too brief a time frame.<sup>221</sup> The data do show that, like many of the provinces and territories, Quebec had its highest PM<sub>2.5</sub> annual average in 2003. The year with the lowest PM<sub>2.5</sub> annual average in Quebec was 2001. For ozone there are data over a longer period, enough to complete a trends analysis; the period 1991–2005 is evaluated in this report.<sup>222</sup>

### 6.3 Health effects of motor vehicle emissions in Canada and Quebec

109. Air pollution is associated with health impacts, including cardiovascular ailments and respiratory distress, and it results in increased emergency hospital visits and hospital admissions in Canada.<sup>223</sup>
110. The Submitter asserts that the alleged failure to effectively enforce ss. 96.1 and 96.2 RQA and s. 51 EQA is causing serious harm to the population of Quebec and to adjacent areas of North America by

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213. *Ibid.* at 2. Quebec RSAs are sub-areas of metropolitan areas for reporting purposes. Montreal has nine RSAs.

214. *2009 Quebec Report on CWS*, *supra* note 36, at 3–4.

215. *Canada Five-Year Progress Report*, *supra* note 34; see also CCME, *Canada-wide Standards for Particulate Matter (PM) and Ozone: Five Year Report, 2000–2005* (Winnipeg: CCME, 2006), online: CCME <[http://www.ccme.ca/assets/pdf/pm\\_oz\\_2000\\_2005\\_rpt\\_e.pdf](http://www.ccme.ca/assets/pdf/pm_oz_2000_2005_rpt_e.pdf)>.

216. *Canada Five-Year Progress Report*, *supra* note 34, fig. 1.

217. *Ibid.*

218. *Ibid.*

219. *Ibid.*, fig. 3.

220. *MDDEP Ozone*, *supra* note 33.

221. *Canada Five-Year Progress Report*, *supra* note 34.

222. *Ibid.*, figures 6 and 7.

223. Environnement Canada, “Air-Quality and Health”, online: Environment Canada <<http://www.ec.gc.ca/cas-aqhi/default.asp?lang=En&n=91D58138-1>>.

reducing air quality and degrading the land environment, the latter being affected by acid precipitation and low-altitude ozone.<sup>224</sup> The Submitter claims that numerous cases of poisoning have been caused by non-compliant vehicles and cites at least one case of death linked by the Office of the Coroner of Quebec to the absence of a mandatory light-duty motor vehicle I/M program.<sup>225</sup> This subsection focuses on the human health effects of automobile emissions generally.

111. According to Health Canada,<sup>226</sup> ozone and PM have been linked to a broad range of human health effects. The data on health effects of ozone have been examined in human epidemiological studies, and exposure to ozone has been associated with mortality, hospital admissions, emergency department visits, and other adverse health effects.<sup>227</sup> There is also evidence that ultra-fine particles are especially toxic, due to their small size and large surface-to-mass ratio. Studies suggest that these airborne particles may pass through the lungs and into the blood, reaching other organs, including the heart.<sup>228</sup> According to the Party, the health effects of small particulate matter (either PM<sub>2.5</sub> or PM<sub>10</sub>) emitted directly from diesel engines are serious enough to cause concern.<sup>229</sup> According to Health Canada, acid rain can affect lakes, forests, objects such as buildings and cars, and human health.<sup>230</sup> The health concerns related to acid rain are caused primarily by SO<sub>2</sub> and NO<sub>x</sub>.<sup>231</sup>
112. According to Quebec's five-year progress report on CWS for PM and ozone, extensive scientific studies reveal that these pollutants have significant effects not only on health, causing chronic bronchitis, asthma and premature death, but also on the environment. The progress report states fur-

ther that ozone damages crops and increases vulnerability to disease among certain species of trees; in addition, fine particles reduce visibility in the air.<sup>232</sup> The Ministry of Health and Social Services of Quebec reiterated these observations and declared a need to implement a mandatory vehicle-emission inspection program to reduce mortality and morbidity rates.<sup>233</sup> The Ministry noted that, during air pollution peaks in Montreal, an average daily excess mortality of 5% is seen among people with respiratory diseases, and 4.2% in people with heart disease.<sup>234</sup>

113. According to the Commissioner of the Environment and Sustainable Development, who reports to the Auditor General of Canada, Canada's smog problem is a major public health issue, as well as being a serious threat to the environment.<sup>235</sup> The Commissioner's May 2000 report (entitled *Smog: Our Health at Risk*, hereinafter "the Smog Report") states that the most significant impact from smog is the adverse effects it has on the health of Canadians, particularly vulnerable members of society such as the elderly, children, and those with heart disease and respiratory diseases.<sup>236</sup> The Commissioner's report indicates that healthy adults are also vulnerable to the adverse effects of smog.<sup>237</sup>
114. The Smog Report provides federal government estimates noting that air pollution can be linked to 5,000 premature deaths each year in 11 major Canadian cities, including Montreal.<sup>238</sup> According to the Quebec government's Heavy-duty Vehicle Inspection and Maintenance Program (PIEVAL), Health Canada has estimated that 1,540 deaths in Montreal each year can be attributed to air pollution.<sup>239</sup> In addition, according to the Smog Report, a far larger number of Canadians experience less

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224. *Submission, supra* note 5 at para. 11.

225. *Ibid.* at para. 11 and at appendix 21: "Rapport d'investigation du Coroner, File no. A-151064" (19 February 2004).

226. *Let's Talk, supra* note 174.

227. *The Smog Primer, supra* note 102, at 13.

228. United States Environmental Protection Agency, National Center for Environmental Research, "Particulate Matter", online: EPA <http://epa.gov/ncer/science/pm/>.

229. *Response, supra* note 9 at 9.

230. *Let's Talk, supra* note 174.

231. *Ibid.*

232. *MDDEP Ozone, supra* note 33 at 1.

233. *Submission, supra* note 5 at para. 40; *Public Health National Program, 2003-2012, supra* note 102, at 10.

234. *Ibid.* at 59.

235. *Submission, supra* note 5, at para. 39; *Smog Report, supra* note 37, para. 4.1.

236. *Submission, supra* note 5.

237. *Ibid.*

238. *Ibid.*

239. *MDDEP PIEVAL, supra* note 175.

serious but more widespread health impacts, placing a significant burden on Canada's health care system. For example, exposure to smog can result in respiratory or other problems that can interfere with quality of life and physical performance.<sup>240</sup> The Smog Report cites other potential effects including increased use of medication, more visits to doctors or emergency rooms, and more hospital admissions.<sup>241</sup>

115. According to the Smog Report, smog also has an impact on Canada's agricultural and forestry sectors, resulting in millions of dollars in crop losses each year due to common air pollutants.<sup>242</sup> The Smog Report notes that current scientific knowledge includes compelling evidence of the need for urgent action on smog.<sup>243</sup> It further states that federal air pollution strategies were originally based on the belief that there were threshold levels below which the main pollutants in smog were safe, whereas research since then has been unable to identify any safe level of ozone or particulate matter.<sup>244</sup>
116. The Submitter provided a 2002 report on the health risks related to transportation in Montreal.<sup>245</sup> The report cites studies between 1994 and 2002 on the short- and long-term health effects of particulate matter and ozone in the Montreal metropolitan area.<sup>246</sup> In particular, the report lists studies that

confirm the links between particulate matter and asthma, pneumonia and increasing mortality in people over the age of 65. The report notes that health care studies concentrate on the relationship between cardiopulmonary problems and lung cancer in urban populations, with a focus on long-term exposure to PM<sub>2.5</sub> as well as to other pollutants such as CO. With respect to ozone, the report lists numerous studies that show short-term health effects, such as an increase in cases of respiratory complications and respiratory infections requiring hospitalization and emergency room services. According to the report, insufficient data on long-term effects are available, but there is an increase in respiratory illness among the over-65 population.<sup>247</sup>

117. Another report on the health effects of air pollution combined with an aging population indicates a likely increase in health care costs.

Like young children and those with chronic diseases (heart, lungs, etc.), the elderly are more vulnerable to air pollution. There is a consensus in the scientific community that pollution plays a major role in exacerbating the symptoms of diseases, especially in vulnerable persons for whom the risk of premature death is non-negligible. Any increase in pollution in Montreal could thus lead to a deterioration in health and an increased demand for medical care among these people.<sup>248</sup>

## 6.4 Emission control and measurement technologies

118. Since 1985, significant technological advances have occurred in pollution control systems and devices and in the tests used in the industry to monitor emission control equipment in light-duty motor vehicles. According to the Sierra Report, HC (or VOC), CO, and NO<sub>x</sub> emissions from gasoline-fuelled light-duty motor vehicles are con-

trolled by complex systems that jointly "reduce evaporative, crankcase and exhaust emissions."<sup>249</sup> The catalytic converter is the most common emission control device on recent-model cars. For a catalytic converter to control the HC or VOC, CO, and NO<sub>x</sub> produced in the engine properly, the fuel metering system must maintain a precise stoichio-

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240. *Smog Report*, *supra* note 37.

241. *Ibid.*

242. *Ibid.*

243. *Ibid.* at para. 4.6.

244. *Ibid.*

245. *King, Drouin & Simard Report*, *supra* note 102.

246. *Ibid.* at 6.

247. *Ibid.* at ii.

248. Direction de la santé publique de Montréal-Centre, Régie régionale de la santé et des services sociaux de Montréal-Centre, *Prevent, Cure, Care: Challenges of an Ageing Society, 1999 Annual Report on the Health of the Montreal Population* (Montreal: Direction de la santé publique, Régie régionale de la santé et des services sociaux de Montréal-Centre, 1999), online: Agence de la santé et des services sociaux de Montréal <[http://publications.santemontreal.qc.ca/uploads/tx\\_asssmpublications/2-89494-221-4.pdf](http://publications.santemontreal.qc.ca/uploads/tx_asssmpublications/2-89494-221-4.pdf)>, at 39.

249. *Sierra Report*, *supra* note 169 at 6.



metric air-fuel ratio: enough air to burn all of the fuel, yet no excess air to inhibit the reduction of NO<sub>x</sub> in the catalytic converter.<sup>250</sup> An oxygen sensor in the exhaust system is critical to maintaining that air-fuel ratio.<sup>251</sup> Since the oxygen sensors degrade over time, they must be periodically replaced in order for the catalytic converter to retain peak efficiency.<sup>252</sup>

119. There are several other relevant emission control technologies. Spark plugs are one such technology, requiring periodic maintenance. When a spark plug misfires, HC emissions increase and the catalytic converter can be damaged by excessive heat.<sup>253</sup> Second, an evaporative emission control system (EECS), which includes a charcoal canister, is necessary to minimize the amount of HC vapors evaporating from the fuel system.<sup>254</sup> Although the charcoal canister will last for the life of the vehicle, the rubber or plastic tubing used in the EECS may be broken or improperly routed during routine maintenance.<sup>255</sup> Thirdly, a positive crankcase ventilation valve is needed to prevent HC vapors from escaping from the crankcase.<sup>256</sup> As a vehicle ages, the valve can become plugged. Given the possibility for failure of these components of a vehicle's emission control system, only adequate maintenance ensures the system's optimal yield.<sup>257</sup> Excessive emissions can result from the removal of these components (e.g., the catalytic converter or the charcoal canister) and from the use of modified parts that prevent the emission control system from functioning properly. The removal or modification of emissions-related parts is commonly referred to as tampering.<sup>258</sup>

120. Under federal regulations, all light-duty vehicles imported or manufactured in Canada since 1998 are required to be equipped with an on-board diagnostic system known as an OBD II System.<sup>259</sup> OBDs are designed to monitor emission-related components for deterioration or malfunction that would cause emissions to increase beyond specified thresholds.<sup>260</sup> OBDs incorporate an indicator light to alert vehicle operators of deterioration or malfunction. The systems are required to store fault codes to assist service technicians with diagnosis and repair. As described in the Response, these codes indicate when repairs are needed. Any technical modification during repair that changes the vehicle from a certified configuration to a non-certified configuration is considered tampering.<sup>261</sup> Overriding the OBD system through the use of high-tech defeat devices or non-certified computer chips, for example, may be considered tampering under Quebec law.<sup>262</sup> An emission system which has been tampered with, or has developed a malfunction, may be repaired to return it to its original certified configuration, and the vehicle may then return to the road.<sup>263</sup>

121. Some government-run emission control programs, such as *Drive Clean* in Ontario and *AirCare* in British Columbia, include mandatory periodic inspection of motor vehicles for emission-related defects and mandatory repair of vehicles found to be defective. There are several ways to measure emissions, including tailpipe emissions tests, visual inspections, and gas cap tests. A summary of the various tests is found in the Sierra Report.<sup>264</sup>

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250. *Ibid.* Stoichiometry deals with the quantitative relationships between the reactants and the products in chemical reactions.

251. *Ibid.*

252. *Ibid.*

253. *Ibid.*

254. *Ibid.*

255. *Ibid.*

256. *Ibid.*

257. *Ibid.*

258. *Ibid.*

259. *O-RVEER*, *supra* note 23, s. 12.

260. *OBD II I/M Programs*, *supra* note 131.

261. *Ibid.* at v, which defines tampering with OBD as the removal, modification, maladjustment, replumbing or disablement of the equipment, or the performance specifications, of emission control systems or other engine systems and vehicle parameters that affect emissions. Tampering does not necessarily include modifications to retrofit emission control systems.

262. The vehicle MY 1994 and 1995 for OBD systems were considered changeover years. On-Board Diagnostic systems featuring OBD II software and hardware have been required on vehicles manufactured or imported in Canada since MY 1998. The Party did not mention cases involving vehicles equipped with OBD II: *Response*, *supra* note 9 at 8-10.

263. *OBD II I/M Programs*, *supra* note 131 at 17.

264. *Sierra Report*, *supra* note 169 at 6 to 8.

The test methods summarized below are used in Canada:

1. Visual inspection: A visual inspection involves examining the emission control components under the hood and comparing to a reference guide identifying which components should be present. It can also include looking under the vehicle for a catalyst can and for a fuel filler neck, and checking for a fill pipe restrictor.

2. Functional inspection: A functional inspection tests certain emission control components to determine whether they are working properly.

3. Idle emissions test: The idle test measures the concentrations of HC and CO in the exhaust while the engine is idling. Quebec heavy-duty vehicles with gasoline engines are tested using a two-speed idle test tailpipe procedure.

4. Acceleration Simulation Mode (ASM): The ASM test measures the concentrations of HC, CO, and NO<sub>x</sub> while the vehicle is driven at a constant speed on a dynamometer (a treadmill-like apparatus). Because this test is more effective than the idle test in identifying vehicles with excessive emissions, it is often used in areas with more severe air quality problems and is common in decentralized testing programs. This includes the Snap Acceleration Smoke Test Procedure for Heavy Diesel Powered Vehicles (J1667).

5. IM240: The IM240 test measures the mass of HC, CO, and NO<sub>x</sub> produced during a driving cycle created to be representative of normal driving. It is more effective than either the idle test or the ASM test in identifying vehicles with excessive emissions. It is used only in centralized testing programs.

6. OBD II: All light-duty gasoline-powered vehicles sold in the US since 1996 and in Canada since 1998 include OBD II systems which monitor the emission control system of the vehicle. These

newer vehicles therefore can be tested for emissions by electronically communicating with the vehicle's OBD II system and requesting the status of the emission control system. These systems can detect faults that tailpipe test methods cannot, and can find problems sooner since they function continuously (they turn on the "check engine" light if a problem is detected).<sup>265</sup>

7. Fuel cap testing (gas cap pressure test): Many programs test gasoline vehicle fuel caps to ensure they are sealing properly. If the cap does not seal properly, gasoline vapors (HC) can be emitted from the vehicle. OBD II-equipped vehicles built after 2004 are not required to have a fuel cap test because the OBD II system performs this check.<sup>266</sup>

8. Snap-idle test: The snap-idle test is a test used on HDDVs and measures the opacity of the vehicle's exhaust when the accelerator pedal is snapped wide open momentarily.

9. Remote sensing: Many programs have considered using remote sensing to test vehicle emissions, but limitations inherent in this technology make it impractical as a stand-alone inspection measure. Remote sensing works by shining a light beam across a road and using the reduction in light to estimate emissions from vehicles. The equipment is expensive to purchase and to operate, and the technology is less effective than a dynamometer test or an OBD system in identifying vehicles with emissions-related defects.<sup>267</sup>

122. All these tests are available in Quebec, but none are mandatory for light-duty vehicles. These test methods are also not used with new vehicle registration inspections by SAAQ. Heavy-duty vehicles undergo a safety inspection when registered in Quebec, but an emissions test is only required on re-inspection as directed by a SAAQ carrier enforcement officer. The first, third and fourth tests described above are performed on such vehicles at a MDDEP-certified centre.<sup>268</sup>

## 6.5 The different types of emission reduction measures

123. While Canada, the U.S and Mexico each have their own set of air pollution problems and approaches

and capacities to deal with them, successful programs do have some common management

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265. *Ibid.*

266. *Ibid.*

267. *Ibid.*

268. The program for heavy-duty vehicles is treated separately, in section 10 of the factual record.

strategies.<sup>269</sup> An important element of these strategies is the use of enforcement programs to ensure targets are met.

124. The following are some of the different programs or measures in common use in Canada:<sup>270</sup>

- anti-tampering legislation, emission standards and their enforcement (including on-road or off-road vehicle inspections), and voluntary inspection clinics,<sup>271</sup>
- heavy-duty vehicle pollution-component retrofit programs,
- petroleum products and fuel efficiency legislation,
- vehicle retirement programs,
- municipal idle reduction campaigns and by-laws,<sup>272</sup>
- speed limits,
- automobile-sharing and carpooling,
- transit improvements (including improvements to access), and
- driver education programs and public awareness campaigns on these topics.

125. Several of these measures—idle reduction programs, vehicle retirement programs, and speed limits—are being implemented by municipalities in several provinces, including Quebec.<sup>273</sup> Further details on the measures adopted in Quebec are reviewed in section 9 of this factual record.

126. The various tools and measures used to reduce emissions from in-use vehicles often involve reducing the number of vehicles actually on the roads and improving the efficiency of urban mass transit systems. Despite measures to promote

public transportation, particularly in large urban centers, the total numbers of vehicles in use has gone up, as discussed in section 6.1 above.

127. In terms of efficiency, there have been important technological developments to reduce emissions, and compliance tools such as I/M programs which support technological developments are being employed in many provinces of Canada to lower emissions by improving vehicle performance.<sup>274</sup> These vehicle testing programs are either centralized or decentralized.<sup>275</sup> In the former case, testing is done by a single entity such as a government department or contractor at facilities generally constructed for the sole purpose of high-volume vehicle emissions testing. In the decentralized case, testing is usually done at facilities that perform repairs and also offer emission testing to their customers (i.e., garages and service stations).<sup>276</sup>

128. US law permits I/M programs to be mandatory in states with counties whose air quality levels do not meet the mandatory federal National Ambient Air Quality Standards and are therefore in “non-attainment.” Following amendments to the US Clean Air Act in 1990, the United States Environmental Protection Agency (EPA) promulgated regulations in 1992 defining the minimum specifications for basic and enhanced I/M programs.<sup>277</sup> States with a marginal or moderate ozone non-attainment area, or moderate CO non-attainment areas, are only required to implement basic vehicle inspection programs, whereas states with areas within ozone transport regions, or with serious or severe ozone non-attainment areas meeting certain population criteria, are required to implement enhanced vehicle inspection programs. An enhanced I/M program is based on a centralized I/M program employing OBD II, fuel cap testing,

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269. Bart Croes, Jurgen Schneider, and Anthony Hedley, “Chapter 4 - Air Quality Management Approaches and Evidence of Effectiveness”, in *Air Pollution and Public Health: A Guidance Document for Risk Managers* (Waterloo: Institute for Risk Research, 2007), online: Institute for Risk Research <[http://www.irr-neram.ca/Guidance%20Documents/GD\\_Chapt\\_4.pdf](http://www.irr-neram.ca/Guidance%20Documents/GD_Chapt_4.pdf)>, at 1. These strategies include the establishment of air quality standards that define clean air goals, gaining strong public support leading to the political will to address these problems, fostering the technology to limit emissions by all major contributing sources, and lastly, the enforcement programs to ensure that standards are met.

270. Environment Canada, Transportation Systems Branch, Sector Initiatives Division, *Canadian In-Use Vehicle Emission Reduction Programs* (Hull: CCME, 2004), online: CCME <[http://www.ccme.ca/assets/pdf/jia\\_trnsprt\\_emiss\\_reduct\\_e.pdf](http://www.ccme.ca/assets/pdf/jia_trnsprt_emiss_reduct_e.pdf)> [*Emission Reduction Programs*] at xiii.

271. MDDEP *PIEVAL*, *supra* note 175; see section 10 of this factual record.

272. The City of Montreal passed a by-law to control and reduce vehicle idling in 1970, the first municipal government to do so; Ville de Montréal, *Règlement de circulation et stationnement*, RRVm, C4-1, a. 40.1, 1970.

273. *Emission Reduction Programs*, *supra* note 270 at xii.

274. *Ibid.* See also *Submission*, *supra* note 5 at para. 49: “Thus, Québec is surrounded by jurisdictions that are applying effective light-duty vehicle inspection and maintenance programs with respect to their atmospheric emissions.”

275. *Sierra Report*, *supra* note 169 at 8.

276. *Ibid.*

277. *United States Clean Air Act*, 42 U.S.C. Chapter 85, as amended in 1990.

- and either IM240 or dynamometer tests like the ASM test. Test costs vary widely, from US \$10 to US \$75.<sup>278</sup> There were 53 programs in operation in 34 states at the end of 2005.<sup>279</sup>
129. In Canada, there is no federal legislation making I/M programs mandatory; such programs fall under provincial responsibility, and some provinces have chosen to implement various types of programs.<sup>280</sup> In 1990 the CCME developed the Smog Management Plan (“SMP”).<sup>281</sup> The CCME had identified three geographical areas where ground level ozone was a problem due to ozone concentrations occasionally rising above the acceptable level of 82 ppb for periods of an hour or more. The regions were the Lower Fraser Valley in BC, the QWC for Ontario and Quebec, and the Southern Atlantic Region for New Brunswick and Nova Scotia.<sup>282</sup> The 1990 SMP included the use of vehicle I/M programs to reduce air pollution both generally and as a specific measure to address the patterns of higher periodic ozone concentrations caused by vehicles in the areas of highest ozone concentrations.
  130. In 1992, British Columbia implemented a centralized I/M program for light-duty and heavy-duty vehicles, followed by Ontario with a decentralized I/M program for light- and heavy-duty vehicles in 1999. Quebec implemented its roadside heavy-duty vehicle inspection program for commercial trucks and buses in 2006, but did not put in place a similar program for light-duty vehicles. In the Southern Atlantic Region, Nova Scotia and New Brunswick do not operate I/M programs, although they have mandatory vehicle safety inspections that include tests for anti-tampering.
  131. In British Columbia, *AirCare* has been in operation since September 1992, and contracts for its operation extended through 2011.<sup>283</sup> The program was jointly developed by the Ministry of Environment of this province and the Greater Vancouver Regional District to improve air quality in the Lower Fraser Valley area. The program uses OBD II, IM240, and ASM testing on most model years (MY) of light- and heavy-duty vehicles annually or biennially (older vehicles receive an annual test), and test facilities are operated by an independent contractor, Envirotest Canada.<sup>284</sup> The test costs C\$23–\$45.<sup>285</sup>
  132. Ontario’s *Drive Clean* program applies to high-population-density areas along Highway 401<sup>286</sup> and is carried out by over 2,000 independent facilities testing both light-duty and heavy-duty vehicles.<sup>287</sup> The test consists of both an ASM-type test and an idle test and is performed every two years for light-duty vehicles up to 19 years old. The test, however, does not include OBD II testing, although the use of OBD II testing only for light-duty vehicles manufactured since 1998 has been proposed. Heavy-duty diesel vehicles receive an annual snap-idle test. The maximum fee to test a light-duty vehicle is \$35 plus applicable taxes. Vehicles failing the test are charged a maximum fee of C\$17.50 plus taxes for a re-test after repairs, if the re-test is performed at the same Drive Clean facility as the initial test.<sup>288</sup>
  133. Quebec’s PIEVAL Program for inspection and maintenance of heavy-duty vehicles registered in Quebec (*Programme d’inspection et d’entretien des véhicules automobiles lourds*) began in November 2006. The program involves an initial visual test of

278. *Ibid.*

279. *Sierra Report*, *supra* note 169 at 14–15.

280. Inspections are mandatory in Ontario, British Columbia, and the Atlantic provinces.

281. *Smog Management Plan*, *supra* note 16. The CCME does not have lawmaking or enforcement powers; its agreements, plans, and strategies do not have the force of law. Nevertheless, commitments made by the CCME are then fulfilled by the relevant jurisdictions, often leading to the creation of laws, policies, or action plans with concrete, enforceable measures.

282. CCME, *Smog in Canada* (Ottawa: CCME) online: CCME <[http://www.ccme.ca/assets/pdf/pn\\_1257\\_e.pdf](http://www.ccme.ca/assets/pdf/pn_1257_e.pdf)>.

283. *AirCare*, online: <<http://www.aircare.ca>>.

284. Envirotest Canada, online: <<http://www.envirotestcanada.ca>>.

285. AirCare, “About Us: Questions & Answers: How much does an AirCare test cost”, online: AirCare <<http://www.aircare.ca/aboutus-qa.php>>.

286. For a map of the program area, see *Drive Clean Program, Light-Duty Vehicle Area*, online: Ontario Ministry of the Environment <[http://www.ene.gov.on.ca/stdprodcon/sume/groups/lr/@ene/@category/@driveclean/documents/nativedocs/stdprod\\_078453.pdf](http://www.ene.gov.on.ca/stdprodcon/sume/groups/lr/@ene/@category/@driveclean/documents/nativedocs/stdprod_078453.pdf)>.

287. *Drive Clean*, online: <<http://www.driveclean.com>>.

288. Ontario Ministry of the Environment, *Drive Clean: What is the Repair Cost Limit* (Toronto: Queen’s Printer for Ontario, 2004), online: Legislative Assembly of Ontario <<http://www.ontla.on.ca/library/repository/mon/9000/248366.pdf>>.



the vehicle followed, if necessary, by an inspection at a shop accredited by MDDEP. Vehicle owners may be fined for a test failure. On 29 March 2011, MDDEP announced tougher opacity and emission standards applicable to heavy-duty vehicles effective 1 May 2011.<sup>289</sup> In addition, under amendments to the *Regulation respecting Environmental Standards for Heavy Vehicles* (“PIEVAL Regulation”), heavy-duty vehicles registered outside Quebec are now covered by the program. Section 10 provides further information about this program.

134. According to the Party, a report published in 2001 by the United States National Research Council concluded that vehicle inspection and maintenance programs are vital to maintaining air quality, but that there is a need to improve program efficiency, which requires rethinking some traditional aspects of the programs.<sup>290</sup> Also according to the Party, a concern has been raised that owners of polluting vehicles often do not have the money to undertake repairs to their vehicles. Additionally, the Party notes that one of the major drawbacks of existing programs is the high cost of identifying non-compliant vehicles, in comparison to the costs governments can impose for vehicle repairs. Some of the existing I/M programs attempt to address these concerns. Thus, in Canada, certain provinces limit the amount that must be spent by the owner to correct the cause of a test failure. In such cases, repairs to the vehicle may not completely correct the problem, and a waiver is issued that allows the owner to continue to operate the vehicle. The rationale behind the waiver is that it reduces the economic hardship to the owner of a potentially large and unexpected repair expense.<sup>291</sup> Many provinces that offer the repair cost waiver limit the number of
135. An emissions benefit analysis of Ontario’s *Drive Clean* program for light-duty vehicles and gasoline heavy-duty vehicles was published in 2005.<sup>292</sup> Failure rates on initial inspection were calculated for 1999 to 2003 using *Drive Clean* program data. The failure rate for light-duty vehicles was 16.4% in 1999 and 10.8% in 2003. According to the *Drive Clean* report, the failure rates were expected to go down after 2004 because of new federal standards.<sup>293</sup> The *Drive Clean* emissions benefit analysis provides a summary of the decline in emissions in Ontario from 1999 to 2003. For HC (or VOC), total reduction from 1999 to 2003 was 57,473 tonnes; for NO<sub>x</sub> emissions, the reduction for the same period was 23,819 tonnes.
136. In Quebec, estimates from the 1995 Ancil Committee Report, reproduced in section 7.3 of the factual record as Table 5, also predict annual decreases for VOCs and NO<sub>x</sub> in the event that an I/M program is implemented for light-duty vehicles. Furthermore, the Sierra Report estimates that an I/M program for light-duty vehicles would result in considerably greater emission reductions than the existing Quebec program applicable to heavy-duty vehicles (i.e. PIEVAL): for PM<sub>2.5</sub> and the PM precursors (HC and NO<sub>x</sub>), a reduction of a few hundred tonnes per year can be expected with a heavy-duty vehicle I/M, whereas 10,000 tonnes per year could be expected from a light-duty vehicle I/M program.<sup>294</sup>

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289. MDDEP, “Resserrement des normes environnementales applicables aux véhicules lourds”, press release (29 March 2011), online: MDDEP <<http://www.mddep.gouv.qc.ca/infuseur/communiqu.asp?no=1843>> [MDDEP Press Release].

290. *Response*, *supra* note 9 at 8.

291. MDDEP Press Release, *supra* note 289.

292. Ontario Ministry of the Environment, *Drive Clean Program Emissions Benefit Analysis and Reporting: Light Duty Vehicles and Non-Diesel Heavy Duty Vehicles (1999 to 2003)* (Toronto: Queen’s Printer for Ontario, 2005), online: OZone <<https://ozone.scholarsportal.info/bitstream/1873/1845/1/264533.pdf>>, at 21.

293. *Ibid.* The new standards on manufactured or imported vehicles were expected to reduce the failure rate to a single digit by 2010, depending on vehicle retirement levels.

294. *Sierra Report*, *supra* note 169 at 21–22. By way of comparison, the report Ontario Ministry of the Environment, *Drive Clean Program Emissions Benefit Analysis and Reporting: Light Duty Vehicles and Non-Diesel Heavy Duty Vehicles, 1999 to 2005* (Toronto: Queen’s Printer for Ontario, 2008), online: Ontario Ministry of the Environment <[http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/@resources/documents/resource/stdprod\\_076093.pdf](http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/@resources/documents/resource/stdprod_076093.pdf)> [*Drive Clean Program Emissions Benefit 1999 to 2005*] is based on real-time emission reduction data and is in line with the Sierra estimates of emission reductions for light-duty and heavy-duty vehicles. See also the PIEVAL results for 2006, 2007, and 2008 in section 10 of the factual record, as well as the corresponding emission reduction estimates.

## 7. Emission reduction commitments and objectives for the transportation sector in Canada and Quebec

137. Over the last forty years, the focus on the various pollutants from automobiles has shifted, beginning with lead, NO<sub>x</sub>, and VOCs (during the 1970s, 1980s, and 1990s), then PM combining with precursor NO<sub>x</sub> and VOCs to become smog and acid rain (during the late 1990s and into the new millennium), and most recently CO<sub>2</sub>. This background helps to explain the progression of governmental measures aimed at the management of vehicle emissions and air quality. Each period of time in the development of the Party's policy and enforcement response is also marked by a steady stream of scientific and technological developments and a greater understanding of the health effects of vehicle emissions. The key historical events in air quality management and the timelines (1832 to 2009) for Canada, Quebec, and Montreal highlight a set of interdependent legislative and policy measures that at times complement other government measures (Appendix 8). The federal and provincial context for the administration and enforcement of automobile pollution laws since 1985 is presented here as a background to the Submitter's assertions.
138. This section begins with the federal/provincial division of powers respecting the environment and an overview of the NAAEC in the Canadian federal system. This is followed by a history of efforts to control automobile emissions in Canada and Quebec before and after 1996, when the NAAEC came into force in Quebec.
139. This is further followed by a discussion of Quebec's efforts over time to manage emission levels produced in the province by a growing fleet of vehicles in use. In this regard, the EQA and RQA provisions at issue were enacted for the purpose of reducing harmful air emissions by prohibiting tampering with pollution control devices and emission systems and by requiring their maintenance. Within the period 1985–2005, there were three distinct shifts in the approach to government enforcement action for these laws. The first approach occurred prior to the signing of the CIA between Quebec and Canada, whereby Quebec undertook to enforce the provisions of the NAAEC (1985 to 1996). The other two significant periods occurred from 1996 to 2001 and from 2001 to 2005. These three periods are detailed in subsections 7.3, 7.4, and 7.5, respectively. Section 7.6 describes Quebec's automobile emission reduction commitments after 2005. In particular, a new direction in air quality management, unrelated to light-duty vehicles, began in Quebec after 2005. This development, the PIEVAL, Quebec's I/M program for heavy-duty vehicles, is dealt with in section 10 of the factual record (as instructed by Council Resolution 06-07).

### 7.1 The division of environment-related powers and the role of the NAAEC in the Canadian federal system

140. Before tracing developments in motor vehicle pollution and Canada's measures to address the problem, this factual record presents a brief discussion of the division of environment-related powers in Canada as well as the role of the NAAEC in the Canadian federal system.<sup>295</sup>
141. In Canada, the federal and provincial governments share jurisdiction over transportation. The federal government regulates vehicle importation, manufacturing and fuels, and sets country-wide standards for these. Provincial governments have the responsibility to manage air pollution from in-use vehicles. In particular, they have the power to set emission and fuel quality standards comparable to or stricter than the federal standards. In 1981, the Quebec government delegated its authority for air quality in the MUC – now the CMM, a planning, coordinating, and funding body created 1 January 2001 – to the MUC itself. The CMM stretches over 4,360 square kilometers, encompassing 82 municipalities that are divided into five administrative regions: Montreal, Laval and parts of the Laurentides, Lanaudière, and

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295. Johnson & Beaulieu, *supra* note 13 at 224–235.

Montréal administrative regions.<sup>296</sup> Today some 3.5 million people live in the CMM, or 47% of the total population of Quebec, accounting for about 50% of dwellings in the province.<sup>297</sup> The territory of the CMM is subject to two different sets of regulations concerning air emissions: one for Montreal Island and another for the four other administrative regions. The two sets of regulations have different standards and methods of enforcement, which means that industrial restrictions<sup>298</sup> are not uniform throughout the CMM.<sup>299</sup>

142. The NAAEC came into force on 1 January 1994.<sup>300</sup> Article 5 of the NAAEC provides that “each Party shall effectively enforce its environmental laws and regulations through appropriate government action.”<sup>301</sup> Because the jurisdiction and legislative authority over environmental matters in Canada, including enforcement, is shared by the two levels of government (federal and provincial), each must take action to meet Canada’s NAAEC obligations. However, legally, only Canada incurs international obligations under the NAAEC.<sup>302</sup> The NAAEC addresses the issue of the implementation of an obligation to effectively enforce laws in a decentralized federation, where the environment is a shared responsibility,<sup>303</sup> by including a Canada federal-state clause in Annex 41 to the agreement. In this “Extent of Obligations” clause, Canada agrees to be bound in respect of environmental matters falling within the jurisdiction of those provinces (including Quebec) that have agreed to implement the NAAEC by signing the CIA.<sup>304</sup>

[O]n the date of signature of this Agreement, or of the exchange of written notifications under Article 47, Canada shall set out in a declaration a list of any provinces for which Canada is to be bound in respect of matters within their jurisdiction.<sup>305</sup>

Thus an assertion of failure to enforce Quebec environmental laws is subject to the procedure under NAAEC Articles 14 and 15.<sup>306</sup>

143. Canada has interpreted this federal-state clause to mean that it “shall be bound in respect of all matters falling within federal jurisdiction, as well as matters within provincial jurisdiction as regards to those provinces who have been identified in a declaration delivered by Canada to the other Parties to the NAAEC.”<sup>307</sup>
144. Alberta, Manitoba and Quebec have agreed to effectively enforce environmental laws and regulations for matters within their respective jurisdictions, while Canada has agreed to enforce its own laws as well as, for the purpose of the NAAEC, the laws of the three CIA provinces.<sup>308</sup> The CIA also facilitates the full participation of Canada and Quebec in joint NAAEC implementation, defining the respective roles of the two orders of government in the implementation, management, and further elaboration of the NAAEC.<sup>309</sup> Under Article 2 of the CIA, Canada and Quebec have rights and obligations under the NAAEC in accordance with their respective jurisdictions.<sup>310</sup>

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296. Communauté métropolitaine de Montréal (CCM), “Interactive Map”, online: CCM <<http://www.cmm.qc.ca/index.php?id=337>>. The greater Montreal area includes 82 municipalities, grouped into five agglomerations: Montreal, Longueuil, Laval, North Shore, and South Shore. The first delegation by the province of authority to regulate air quality in Montreal took place 23 February 1981: *Décret concernant la soustraction du territoire de la Communauté urbaine de Montréal de l'application de certains articles de la Loi sur la qualité de l'environnement*, (1981) 113 G.O.Q. II, 2575.

297. *Ibid.*

298. *Ibid.* Industrial levels are regulated provincially, but vehicles imported or manufactured in Canada are regulated federally, and in-use vehicles are the responsibility of both the province and the CMM.

299. *Ibid.*

300. NAAEC, *supra* note 1.

301. *Ibid.*, art. 5.

302. Johnson & Beaulieu, *supra* note 13 at 228.

303. *Ibid.* at 224.

304. CIA, *supra* note 8.

305. NAAEC, *supra* note 1, Annex 41.

306. The declaration is codified in the CIA, *supra* note 8.

307. *Ontario Logging Factual Record*, *supra* note 169 at 225.

308. CIA, *supra* note 8.

309. *Ibid.*; see also Johnson & Beaulieu, *supra* note 13 at 229.

310. CIA, *supra* note 8, art. 2.

145. On 10 July 1996, before Quebec signed the CIA (in December of that year), the *Act Respecting the Implementation of International Trade Agreements* (“ARIITA”) came into force,<sup>311</sup> its purpose being to implement the NAAEC and NAFTA in Quebec.<sup>312</sup> Quebec is thus committed under both the CIA and ARIITA to effectively enforce its environmental laws and regulations, including those provisions of the EQA and the RQA which are at issue in this factual record.<sup>313</sup>
146. The CIA thus sheds light on a province’s role in protecting the environment within its jurisdiction.<sup>314</sup> Canada’s declaration under NAAEC Annex 41 and Quebec’s commitments under the CIA also extend to those municipal authorities to which powers have been delegated by the provincial authorities; thus the City of Montreal has its own air quality standards. This factual record, however, takes account of these municipal standards only to the extent they are part of the Party’s overall enforcement record.<sup>315</sup>
147. Another relevant Canadian body that enables its member governments to fulfill their environmental protection responsibilities in areas of joint jurisdiction is the CCME. The CCME, as noted above, is a major intergovernmental forum in Canada for discussion and joint action on environmental issues of national and international concern. Its members have stated they can undertake work that no other body can. Air quality management is one such area. Under the auspices of the CCME, various agreements, guidelines and protocols have emerged. In particular, the CCME has contributed to cooperation on environmental standard setting, inspection, and environmental law enforcement.<sup>316</sup> However, the CCME is neither an enforcement body nor a lawmaking body. Those latter powers remain with each level of government (federal, provincial/territorial, and municipal). It should be borne in mind when reading this factual record that agreements or plans created by the CCME do not have the force of law unless they are actually adopted as law by the province, and that it is up to each province to implement any such commitments it has made.

## 7.2 Canada-wide commitments on NO<sub>x</sub>, VOCs, and smog reduction, 1989–2005

148. According to the Party, knowledge gained from data collection encouraged federal and provincial government plans on emissions and transportation to evolve. In the 1990s, the link between emissions and health effects was confirmed by research and progress on air quality data collection.<sup>317</sup> That link influenced government to direct its plans at regions that had known high levels of ground-level ozone pollution.<sup>318</sup> Thus, most vehicle emission control initiatives, in particular those adopted

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311. *ARIITA*, *supra* note 116. The Act was passed by the Quebec National Assembly on 12 June 1996, assented to 13 June 1996, and came into force on 10 July 1996.

312. *CIA*, *supra* note 8, art. 2. By virtue of this Act, Quebec implemented the *North American Free Trade Agreement*, the *North American Agreement on Labor Cooperation*, and the *Agreement Establishing the World Trade Organization*. For a discussion on the adoption and implementation of NAFTA in Canada, see the judicial decision *UL Canada inc. v. Quebec (PG)*, [1999] R.J.Q. 1720 (Sup. Ct.) at 80–94.

313. *NAAEC*, *supra* note 1, Annex 41 at para. 2 provides that the Council shall “take into account” whether the submission comes from a province for which Canada has agreed to be bound by NAAEC in respect of matters within the province’s jurisdiction.

314. *Johnson & Beaulieu*, *supra* note 13 at 228–229, addresses the problem of accountability when two levels of government are responsible for enforcement: “Provincial governments must, therefore, be in some way accountable in cases of systematic patterns of ineffective enforcement. Otherwise, NAAEC’s objective of uniform, diligent enforcement would remain elusive in Canada.”

315. *NAAQO*, *supra* note 20. Montreal and Vancouver are the only two cities in Canada that have been delegated authority for air quality and environmental standards.

316. The *Harmonization Accord* of 1998, *supra* note 31, included, *inter alia*, the *Environmental Standards Sub-agreement* of 2001, *supra* note 32, and the *Inspections and Enforcement Sub-agreement* (Winnipeg: CCME, 2001), online: CCME <[http://www.ccme.ca/assets/pdf/insp\\_enssubagr\\_e.pdf](http://www.ccme.ca/assets/pdf/insp_enssubagr_e.pdf)> [*Inspections and Enforcement Sub-agreement*]. Quebec has not endorsed any of these three agreements.

317. The Canadian NO<sub>x</sub>/VOC Science Assessment for the CCME (1996) was a major contribution to scientific knowledge of ozone. See Multi-Stakeholder NO<sub>x</sub>/VOC Science Program, *Canadian 1996 NO<sub>x</sub>/VOC Science Assessment, Report of the Data Analysis Working Group* (Ottawa: Environment Canada, 1997). The SMP also considered the historical development of trends in human health and vehicle emissions.

318. Canada was also influenced by international treaties and by air emission management in the United States, given the latter’s proximity. Thus, as Environment Canada states, “The [Smog Management Plan] also is intended to ensure that Canada meets its international obligations for NO<sub>x</sub> controls. These are found in the United Nations Economic Commission for Europe NO<sub>x</sub> Protocol of 1988 (under the Convention on LRTAP) and the Canada-United States Air Quality Agreement of 1991.” The *United States-Canada Air Quality Agreement* was signed by the two countries on 13 March 1991 in Ottawa. Its purpose is to combat transboundary air pollution caused by sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), which are responsible for acid rain. See “United States-Canada Air Quality Agreement,” online: Environment Canada <[http://www.ec.gc.ca/pdb/can\\_us/qual/1992/english/section02\\_e.html](http://www.ec.gc.ca/pdb/can_us/qual/1992/english/section02_e.html)>.

under the SMP, have targeted certain parts of Canada with a long history of recording high levels of air pollution.

149. The SMP was approved by provincial and territorial environment ministers<sup>319</sup> and was “[d]esigned to address the two primary objectives laid down by the CCME in October, 1988. These are that the plan should: 1) solve our domestic NO<sub>x</sub> and VOC related environmental problems; [and] 2) meet our international obligations.”<sup>320</sup> The SMP targeted various sectors (including transportation) and contained a number of emission reduction measures for both light-duty and heavy-duty vehicles.

This was the first time that the two orders of government jointly recommended I/M programs and anti-tampering measures.<sup>321</sup> Each province/territory would be responsible for the implementation and enforcement of the measures set out in the SMP.<sup>322</sup>

150. According to the SMP, certain regions of Canada had a long history of recording high levels of air pollution.<sup>323</sup> The SMP targeted the Lower Fraser Valley (“LFV”) in British Columbia, the Saint John Area within the Southern Atlantic region, and also the Quebec Windsor Corridor (“QWC”) for special action.<sup>324</sup>

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319. Regarding Quebec’s participation in this plan, see *supra* note 25. *Response*, *supra* note 9 at 8.

320. *Smog Management Plan*, *supra* note 16 at xiii.

321. *Ibid.* at 99–100, 117.

322. *Ibid.* at xvi.

323. *Ibid.* at 1. See also Christine Labelle, *The Effects of Smog on the Health of Canadians* (Ottawa: Library of Parliament, 1998), online: Parliament of Canada <<http://www.parl.gc.ca/Content/LOP/ResearchPublications/prb984-e.pdf>> [Labelle] at 1-2.

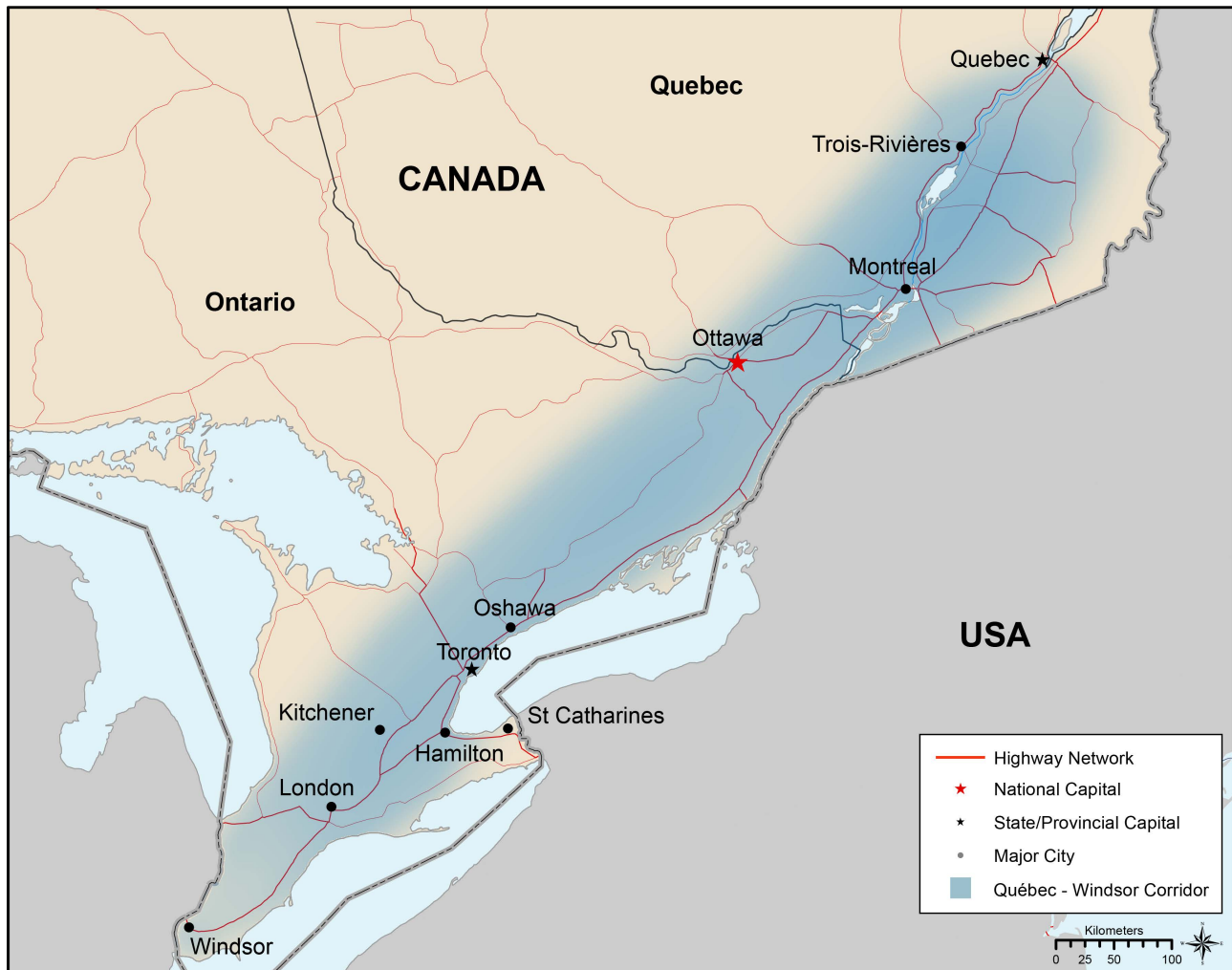
324. *Smog Management Plan*, *supra* note 16 at xv, 43 and 64. The illustrative map of the QWC was created by the CEC Secretariat.

325. Environment Canada, *Making Transportation Sustainable: a Case Study of the Quebec-Windsor Corridor* (Gatineau: Her Majesty the Queen in Right of Canada (Environment Canada), 2002), online: Environment Canada <<http://www.ec.gc.ca/publications/1DE3A724-0F0C-4CE8-9AD5-1898628171F3/Making-Transportation-Sustainable-A-Case-Study-of-the-Quebec-City-Windsor-Corridor.pdf>>, at 1.



Figure 1: The Quebec-Windsor Corridor

### Illustration of the Quebec - Windsor Corridor



The QWC is a 100-kilometre-wide strip that runs along the Canada/US border for about 1100 kilometres from Quebec City, Quebec to Windsor, Ontario.<sup>325</sup>

151. A large portion of transportation-related activity within Canada occurs within the QWC. The QWC contains roughly half of Canada's population and about 85% of the Quebec and Ontario populations; nearly all of the major urban centres in these provinces are located in the corridor.<sup>326</sup> The SMP introduced special provincial or regional environmental measures, including an I/M program for light-duty vehicles. It prioritized the reduction of motor vehicle emissions of VOCs, carbon monoxide, nitrogen oxides, and other toxic compounds

beyond the reductions that would result from federal standards for vehicles manufactured or imported in Canada. The magnitude of the emission reductions achieved, and any subsequent environmental and health benefits, depended on provincial, territorial and municipal authorities' implementing special measures such as I/M programs.

152. The SMP set out a broad national approach and outlined three phases (1990–1997, 1997–2000,

326. *Ibid.*



2000–2005), with the goal of attaining a national air quality objective for ozone by 2005:

[T]he final 2005 targets will be selected to ensure consistent attainment of the maximum acceptable air quality objective for ozone of 82 ppb in all areas of Canada by the year 2005.<sup>327</sup>

153. Government measures in the first phase were of two types: those measures to be implemented by the federal government, such as emission limits for mobile sources, and measures such as I/M programs developed through federal and provincial co-operative programs, but to be implemented by the provinces. To allow for flexibility, Phase I of the SMP provided for the substitution of “environmentally equivalent” measures for those specified in the base program. For instance, if a province chose to opt out of I/M programs, it could replace them with other measures with an equivalent (or better) ability to reduce ozone peaks and the duration of ozone exposure in the regions affected by the emission sources in question.<sup>328</sup>
154. To obtain approval for a measure considered equivalent, the responsible entity would notify CCME members via the NO<sub>x</sub>/VOC Consultation Office, with an evaluation of the proposed “environmental equivalency.” Chapter IX of the SMP set out the criteria for determining environmental equivalency, for the base set of 31 other specific government actions.
155. In its first phase, concerning motor vehicles, the SMP recommended the passage of a law containing anti-tampering provisions and covering I/M programs.<sup>329</sup> It stated that tampering with pollution control devices is one cause of high vehicle emissions, and that the enactment of comprehensive anti-tampering laws in conjunction with a policy on the use of aftermarket replacement parts, in particular catalytic converters, would help to relieve this problem.<sup>330</sup>
156. The SMP was introduced the same year that leaded gasoline was banned in Canada (a matter

addressed in section 8.1 of the factual record)—five years after s. 51 EQA and ss. 96.1 and 96.2 RQA were enacted in Quebec. The recommended anti-tampering legislation therefore addressed the problem with leaded fuel (although this was already covered in Quebec by the second part of s. 96.2 RQA), but it also included measures to combat NO<sub>x</sub> and VOC emissions.<sup>331</sup> As for I/M programs, the SMP described them as follows:

Motor vehicle inspection and maintenance [I/M] programs usually consist of a regularly scheduled inspection of vehicles in a designated area to detect those vehicles emitting pollutants at a rate greater than selected specifications or with inoperative or missing pollution control equipment. The owners of vehicles which fail inspections are required to have them repaired before the vehicles can be re-licensed. A compulsory inspection encourages owners not only to have their vehicles maintained in accord with a manufacturer’s schedule but also to avoid tampering and misfueling.<sup>332</sup>

157. According to the SMP, the anticipated benefits from implementing an I/M program include emission reductions:

Motor vehicle [I/M] will reduce VOCs more than NO<sub>x</sub>. It is estimated that [I/M] will reduce NO<sub>x</sub> emissions by about 4% and VOC emissions by about 16%. These are conservative estimates, particularly for VOCs, where the 16% is scaled down from higher California estimates to account for higher average tailpipe emissions (in relation to evaporative emissions) in the colder Canadian climate. Comparable VOC reductions (30% range) may be achieved in Canada in warm summer months when ozone episodes occur.<sup>333</sup>

158. With respect to heavy-duty vehicles, the SMP recommended reducing the average speed on major highways in summer by 1993.<sup>334</sup>
159. The SMP’s measures for an I/M program for light-duty vehicles, as well as anti-tampering legislation, were to be in place by 31 December 1993 for British Columbia, Ontario, and Quebec.<sup>335</sup>

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327. *Smog Management Plan*, *supra* note 16 at xi.

328. *Ibid.* at 157.

329. *Ibid.* at 71 and 100.

330. *Ibid.*

331. *Ibid.*

332. *Ibid.* at 99. The *Smog Management Plan* refers to “I & M” while this factual record uses the expression “I/M.”

333. *Ibid.* at 100.

334. *Ibid.* at 70 and 98. When the report was written, heavy-duty vehicles were the highest single source of NO<sub>x</sub> emissions in the Lower Fraser Valley and the QWC.

These measures gave rise to the adoption of anti-tampering provisions in several provinces and territories. In addition, as noted in section 6.5, British Columbia did implement an I/M program for light-duty vehicles in 1992, and Ontario implemented one in 1998 (five years after the target date). Furthermore, although governmental measures related to I/M programs fall under provincial jurisdiction, Environment Canada had been sponsoring clinics to promote I/M programs since 1989 in several provinces where air quality exceeded the ozone air quality objective. In 1992, Environment Canada coordinated the development of national I/M Codes of Practice for light-duty motor vehicles.

160. In Quebec, an I/M program for light-duty vehicles was not included in the first phase of the SMP (apart from voluntary inspection clinics), nor was any equivalency proposed for the 2005 emission targets. According to the Party, the planning for a vehicle inspection program has been under investigation since 1990.<sup>336</sup> MDDEP indicated in January 2007 that “[t]here is no LDV [light-duty vehicle] I/M Program or regulation in [Quebec]. Studies are being conducted but no date of implementation can be put forward at the moment.”<sup>337</sup> Strategic plans for the Ministry after 2005 contain neither a timetable nor a set of measures for an I/M program for light-duty vehicles. No other timetable for the implementation of such a system was provided, although the Party noted in its supplemental information that the Government of Quebec was waiting for recommendations from its current advisory committee.<sup>338</sup>
161. With respect to other federal, provincial and territorial air quality measures found in the SMP, Quebec, along with its counterparts on the Joint

Meeting of Ministers of Energy and the Environment (an umbrella for the CCME and the Council of Energy Ministers), signed a Comprehensive Air Quality Management Framework for Canada in 1993. This air quality agreement sets out principles of cooperation for the development of plans to deal with air quality. These include voluntary action, public education, and economic measures including incentives.<sup>339</sup> Several provinces, including Quebec, implemented voluntary action, public education, and economic measures including incentives, in efforts related to the transportation sector, as discussed in subsection 9.2.4 of the factual record.

162. In 1994, the CCME published the first edition of the *Environmental Code of Practice for Motor Vehicle Emission Inspection and Maintenance Programs* (the “Code of Practice”), which dealt with the implementation and recommended features of provincial I/M programs for light-duty vehicles. The purpose of the Code of Practice was to provide guidance to those provincial transportation and environmental regulatory agencies that chose to adopt an I/M program for light-duty vehicles.<sup>340</sup> The CCME had been coordinating the drafting of the Code of Practice since 1992. A second edition of the Code of Practice was published in 1998.<sup>341</sup> In 2003, the CCME published a similar document for heavy-duty vehicles.<sup>342</sup>
163. Phase II of the SMP began in 1997, but it did not constitute a federal-provincial plan as it did not receive full provincial and territorial consensus. This phase of the SMP reviewed the progress achieved by the federal government during Phase I, included highlights of the latest scientific research on health, and described the next steps in controlling emissions for the relevant federal

335. *Ibid.* at 100. Phase I initiatives include, under “Illustrative Regional Remedial Programs,” light-duty vehicle inspection and maintenance programs, and anti-tampering legislation for the Lower Fraser Valley and the QWC.

336. *Response*, *supra* note 9 at 7; *Air Quality in Quebec (1975–1994)*, *supra* note 17 at 2. See also *MDDEP Chronology of events*, *supra* note 17.

337. *Sierra Report*, *supra* note 169 at 17; Electronic communication from the Director, Vehicle Inspection and Maintenance, MDDEP (30 January 2007).

338. *2009 Supplemental Information*, *supra* note 63 at 11.

339. *Smog Report*, *supra* note 37 at para. 4.135.

340. CCME, *Environmental Code of Practice for Motor Vehicle Emission Inspection and Maintenance Programs*, 1<sup>st</sup> ed. (Winnipeg: CCME, 1994), online: CCME <[http://www.ccme.ca/assets/pdf/pn\\_1172\\_e.pdf](http://www.ccme.ca/assets/pdf/pn_1172_e.pdf)>; 1998 CCME *Code of Practice*, *supra* note 18.

341. *1998 CCME Code of Practice*, *supra* note 18.

342. CCME, *Environmental Code of Practice for On-Road Heavy-Duty Vehicle Emission Inspection and Maintenance Programs* (Winnipeg: CCME, 2003), online: CCME <[http://www.ccme.ca/assets/pdf/pn\\_1328\\_e.pdf](http://www.ccme.ca/assets/pdf/pn_1328_e.pdf)> [2003 CCME HDV *Code of Practice*] at 3.

343. Two such departments are Health Canada and Transport Canada. *Labelle*, *supra* note 323 at 15-16.

344. NO<sub>x</sub> and VOCs also remained part of Phase II.

345. “Progress in Pollution Prevention”, *Environment Canada*, online: Environment Canada <<http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=290EE1D7-9A53-48FD-9E73-688978F03332>>. The federal government exercises jurisdiction over environmental protection and the health of Canadians through Environment Canada, Transport Canada, Natural Resources Canada, and Health Canada.

departments.<sup>343</sup> Initiatives under Phase II aimed to address smog, and as a result of the latest scientific findings, particulate matter was also included.<sup>344</sup> These measures included implementing strict emission standards at the federal level for new vehicles, revised codes of practice for vehicle I/M programs, and developing a federal sustainable transportation policy. Despite the findings on particulate matter, no measures to be implemented by the provinces and territories were included.<sup>345</sup> The environment ministers from the provinces and territories did not provide enforcement or other compliance reports, nor was any information provided on environmental equivalencies implemented by the provinces and territories in lieu of special measures set out in Phase I.

164. In 1998, another step was taken by the CCME with the finalization of the *Canada-wide Accord on Environmental Harmonization* (the “Harmonization Accord”).<sup>346</sup> The Harmonization Accord was intended to encourage federal and provincial/territorial environment ministers to work together on key issues of environmental protection and health risk reduction, and in particular to set national standards. The Harmonization Accord contained an inspections sub-agreement, replaced in 2001 by an updated Inspections and Enforcement Sub-agreement.<sup>347</sup> Quebec did not sign the Harmonization Accord or its sub-agreement, which were endorsed by the other environment ministers at the time.

165. In June 2000, the members of the CCME, except for Quebec – which only agreed to act in harmony with them<sup>348</sup> – endorsed the CWS.<sup>349</sup> These standards set PM and ground-level ozone targets for 2010. The adoption of the CWS was the third phase of the SMP.<sup>350</sup> The CWS set out the following:

The long-term air quality management goal for PM and ozone is to minimize the risks of these pollutants to human health and the environment. However, recent scientific evidence indicates that there is no apparent lower threshold for the effects of these two pollutants on human health.

These CWS for PM and ozone are an important step towards the long-term goal of minimizing the risks they impose to human health and the environment. They represent a balance between the desire to achieve the best health and environmental protection possible in the relative near-term and the feasibility and costs of reducing the pollutant emissions that contribute to elevated levels of PM and ozone in ambient air. As such, while they will significantly reduce the effect of PM and ozone on human health and the environment, they may not be fully protective and may need to be re-visited at some future date. There are also additional benefits to reducing and maintaining ambient levels below the CWS where possible.<sup>351</sup>

166. In endorsing the CWS for PM and ozone, federal, provincial and territorial jurisdictions across Canada, with the exception of Quebec, committed themselves to implementing the CWS, sharing information respecting implementation, and being accountable to their respective publics.

167. The numerical targets and timelines established by the CWS for PM and ozone are respectively as follows:

- For PM<sub>2.5</sub>: 30 µg/m<sup>3</sup>, 24-hour averaging time, by year 2010. Achievement will be based on the 98<sup>th</sup> percentile ambient measurement annually, averaged over three consecutive years.
- For ozone: 65 ppb, eight-hour averaging time, by 2010. Achievement will be based on the fourth highest measurement annually, averaged over three consecutive years.<sup>352</sup>

168. Section 6.2, as we have seen, discusses Quebec’s progress towards attainment of the CWS targets.

169. The year following the introduction of the CWS, PM<sub>10</sub> was listed as a toxic substance under CEPA. To provide the Government of Canada with additional tools and the legal authority to develop and adopt measures to control ozone and PM, Schedule 1 of CEPA 1999 was amended in 2003 to

346. *Harmonization Accord*, *supra* note 31.

347. *Inspections and Enforcement Sub-agreement*, *supra* note 316.

348. *MDDEP Ozone*, *supra* note 33.

349. *CWS*, *supra* note 30.

350. *Ibid.*

351. *Ibid.* at 2.

352. *Ibid.*

include ozone and precursor emissions of NO, NO<sub>2</sub>, SO<sub>2</sub> and VOCs.<sup>353</sup> CEPA 1999 defines a substance as “toxic” if it is entering or may enter the environment in a quantity or a concentration or under conditions that: (a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity; (b) constitute or may constitute a danger to the environment on which life depends; or (c) constitute or may constitute a danger in Canada to human life or health.<sup>354</sup>

170. The provincial and territorial governments’ record in implementing Phase I of the 1990 SMP measures on air quality management was examined by the Office of the Auditor General of Canada and its Commissioner of the Environment and Sustainable Development (“Environment Commissioner”) in 2000.<sup>355</sup> The Environment Commissioner found that overall, the SMP was a major achievement by the federal, provincial, and territorial governments. He also noted that the SMP provided sound strategic direction and was an excellent first step in fully addressing the smog problem in Canada.<sup>356</sup> However, the Environment Commissioner identified a lack of an effective management system,<sup>357</sup> observing that, although the CCME endorsed and led the SMP, it had no power to compel the federal government, provinces, territories, or municipalities to follow their own plans, or indeed to act at all.<sup>358</sup> The role of the CCME,

according to the Environment Commissioner, was limited to coordination and facilitation. The Commissioner noted the following:

Governments are accountable for implementing the Plan, with each jurisdiction deciding whether or not to adopt proposals that governments have agreed to through the CCME. [...] We found that an appropriate accountability regime for the 1990 Plan was never put in place to clarify roles, responsibilities and expected performance of each level of government. It was thus unclear whom the public or Parliament could hold to account should the Plan fail.<sup>359</sup>

171. On Canada’s implementation of the SMP, the Environment Commissioner stated:

The 1990 NO<sub>x</sub>/VOC Management Plan outlined the initiatives the federal government would undertake in areas clearly under its jurisdiction. The government indicated where it planned to take the lead, and it led many of the National Prevention Initiatives. The federal government delivered most of the activities it was responsible for under these initiatives.<sup>360</sup>

172. The goals set out by the SMP for the provinces and territories – i.e., a broad national approach to attain a national air quality objective for ozone in three phases – ended in 2005, some months after the filing of the AQLPA Submission.

### 7.3 Quebec’s commitments on NO<sub>x</sub>, VOCs, and smog, 1985–1996

173. Even before Quebec committed to implementing the NAAEC in 1996, it took measures to reduce air pollution. According to the Party’s Response, MDDEP’s Division of Air Quality was assigned responsibility for implementing Quebec’s com-

mitments under the SMP from 1990 to 2001.<sup>361</sup> In support of these commitments, Quebec formed an interministerial committee (the “Anctil Committee”) in 1993 to study the implementation of an I/M program for light-duty vehicles in Quebec.<sup>362</sup>

353. *Order Adding Toxic Substances to Schedule 1 to the Canadian Environmental Protection Act, 1999*, SOR/2010-210, online: Canada Gazette <<http://www.gazette.gc.ca/rp-pr/p2/2010/2010-10-13/html/sor-dors210-eng.html>>.

354. For substances deemed toxic under CEPA 1999 and added to the CEPA list of toxic substances (Schedule 1), Environment Canada and Health Canada must propose an instrument to establish preventive or control actions for managing the substance and, thereby, to reduce or eliminate risks to human health and the environment posed by its use and/or release. For PM and ozone, the instruments used by Canada were the 1994, 1998, and 2003 versions of the Canadian Code of Practice for I/M programs.

355. *Smog Report*, *supra* note 37 at para. 4.194.

356. *Ibid.* at paras. 4.43, 4.171.

357. *Ibid.* at paras. 4.174, 4.176.

358. *Ibid.* at paras. 4.47, 4.181.

359. *Ibid.* at paras. 4.45, 4.181–4.182.

360. *Ibid.* at paras. 4.45, 4.183.

361. *Response*, *supra* note 9 at 8.

362. The committee was chaired by Conrad Anctil and consisted of twelve members: four from MDDEP, three from the MUC, two from SAAQ, one from the Ministry of Transport of Quebec (*Ministère des Transports du Québec*) and two from Environment Canada. The Committee did not address the plan’s anti-tampering measure, as Quebec had already enacted appropriate legislation.



Its task was to study various recommendations from the SMP and prepare its own recommendations on the implementation of a mandatory I/M program for light-duty vehicles in Quebec.<sup>363</sup> The Anctil Committee was to pay special attention to NO<sub>x</sub>/VOCs emissions, especially in the Quebec portion of the QWC, and to the parameters of a light-duty vehicle I/M program.<sup>364</sup> The Anctil Committee submitted its report in January 1995.

174. The Anctil Committee also presented the potential NO<sub>x</sub> and VOC emission reduction benefits for the Quebec part of the QWC that would be attained from the implementation of various initiatives in

the decade 1995–2005, including a light-duty vehicle I/M program. These calculations were based on the data presented in the 1990 SMP.<sup>365</sup> Table 5 presents the possible NO<sub>x</sub> and VOC emission reductions over a decade by type of transportation-sector initiative (federal or provincial) for the Quebec part of the QWC corridor (excluding measures relating to light-duty vehicles).<sup>366</sup> Table 6, also taken from the Anctil Committee Report, compares the measures in Table 5 to the possible emission reductions for initiatives covering light-duty vehicles, including for a provincial light-duty vehicle I/M program.<sup>367</sup>

**Table 5: Anctil Committee Report – Estimated possible ten-year reduction of NO<sub>x</sub> and VOC emissions in the Quebec part of the QWC corridor for transportation sector initiatives (excluding measures relating to light-duty vehicles, in tonnes/year (t/y))**

Smog Management Plan–Phase I	NO <sub>x</sub> reduction (t/y)	VOC reduction (t/y)	Cost (C\$/t)
Reduce gasoline volatility (initiative V602) <sup>368</sup>	no data was included	9,644	1,000
Vapor balancing and recovery (at gasoline storage and transfer depots) (initiative V603) <sup>369</sup>	no data was included	3,586	100
Gasoline delivery vapor balancing and recovery at service stations (initiative V604) <sup>370</sup>	no data was included	3,642	200
Speed limits for heavy-duty vehicles (initiative N502) <sup>371</sup>	1,386	no data was included	1,000
Draft federal NO <sub>x</sub> emission standards for new diesel engines used in the construction industry (initiative N303) <sup>372</sup>	900	no data was included	2,300
New federal heavy-duty vehicle NO <sub>x</sub> emission standards (initiative N302) <sup>373</sup>	2,455	no data was included	2,300
<b>Reductions/average cost per tonne</b>	<b>4,741</b>	<b>16,872</b>	<b>C\$917.66</b>

363. Steering Committee to develop an inspection and maintenance program of vehicles in Quebec, *Rapport sur les possibilités d'implantation d'un programme d'inspection et d'entretien des véhicules légers au Québec* (Québec: Comité directeur pour l'élaboration d'un programme inspection/entretien des véhicules automobiles au Québec, 1994) [Anctil Committee Report] at 1.

364. *Ibid.*

365. *Ibid.* at 9.

366. *Ibid.* at 17.

367. *Ibid.* at 21.

368. *Smog Management Plan*, *supra* note 16 at 117–18.

369. *Ibid.* at 118–119.

370. *Ibid.* at 119–120.

371. *Ibid.* at 98–99.

372. *Ibid.* at 90–91.

373. *Ibid.* at 88–89.

**Table 6: Anctil Committee Report – Comparison of possible NO<sub>x</sub> and VOC emission reduction benefits of light-duty vehicle-related initiatives versus other transportation-sector initiatives in the Quebec part of the QWC over a 10-year period (tonnes/year)**

Smog Management Plan–Measure	NO <sub>x</sub> reductions (t/y)	VOC reductions (t/y)	Cost (C\$/t)
Table 5 – Total reduction and average cost per tonne (C\$/t)	4,741	16,872	917.66
Light-duty vehicles – construction standards			
a) Federal emission standards applicable to new vehicles (enforcement planned for 1996, adopted in 1997) <sup>374</sup> (initiative N/V301) <sup>375</sup>	9,238	1,863	2,300
b) Gasoline vapor balancing and recovery (initiative V605) <sup>376</sup>	no data was included	5,282	1,300
I/M program for light-duty vehicles (initiative N/V601) <sup>377</sup>			
a) CCME 1990 I/M Code of Practice	1,360	6,389	3,000
b) EPA Code 1991 (enhanced cost-benefit ratio)	2,000	7,000	900

175. According to the estimates in these tables, NO<sub>x</sub> emissions would be reduced by 13,339 to 15,979 tonnes and VOCs would be reduced by 30,406 to 31,017 tonnes in the Quebec portion of the QWC alone if all the initiatives in question were implemented (not counting the unquantifiable benefits that some of them may possess).<sup>378</sup>

176. The Anctil Committee listed several I/M program options, along with a cost-benefit analysis for an I/M program. According to the report, the failure to implement an I/M program in Quebec for light-duty vehicles – that is, maintaining the *status quo* – would have the following consequences:

- it would remove an important piece of the anti-smog plan,
- the anticipated environmental benefits would not be realized,
- any vehicle emission reductions achieved would arise solely from federal new vehicle emission standards, and

- the Quebec minister’s commitment in Charlottetown [for Phase I of the 1990 SMP] would not be honored.<sup>379</sup>

177. Based on the parameters of the recommended program, the Anctil Committee report lists the following potential benefits of a light-duty vehicle I/M program:

- the elimination of 2,000 tonnes of NO<sub>x</sub> and 7,000 tonnes of VOCs per year,
- better maintenance of motor vehicle equipment, which would reduce both consumption of fossil fuels and emissions of pollutants such as CO, CO<sub>2</sub>, and certain toxic organic compounds,
- the promotion of regular vehicle maintenance,
- government budgeting would remain unaffected, I/M inspection centres being self-financing,
- direct creation of 300 jobs and indirect creation of 700 jobs in the greater Montreal area,

374. The 1997 amendments to the *Motor Vehicle Safety Regulations*, C.R.C., c. 1038 [*Motor Vehicle Safety Regulations*], led to the full harmonization of Canadian vehicle emission standards with the EPA standards. The bulk of the Canadian motor vehicle emission regulations standards had been harmonized with the US regulations in 1988; see “Automotive Harmonization Initiatives”, *Industry Canada*, online: Industry Canada <<http://www.ic.gc.ca/eic/site/auto-auto.nsf/eng/am01207.html>> [*Industry Canada Automotive Harmonization Initiatives*].

375. *Smog Management Plan*, *supra* note 16 at 87–88.

376. *Ibid.* at 120–121.

377. *Ibid.* at 99–100, 117.

378. *Anctil Committee Report*, *supra* note 363 at 19. See also the estimates of a 2007 report on Ontario’s *Drive Clean* program: *Drive Clean Program Emissions Benefit 1999 to 2005*, *supra* note 294 at 28.

379. *Anctil Committee Report*, *supra* note 363 at 49.



- comprehensive application of the polluter-pays principle,
- improved control over vehicles from outside Quebec with the simultaneous adoption of mandatory inspection for imported vehicles, and
- the enthusiastic support of interested non-governmental organizations, as well as general approval among the public.<sup>380</sup>

According to the Anctil Committee, the only benefit of not implementing an I/M program would be that owners of light-duty vehicles would not incur its costs.

178. The associated costs of implementing an I/M program for light-duty vehicles were identified as the following:

- the fee paid by vehicle owners for the inspection and certificate, estimated to be between C\$25 and C\$35,
- the costs of repairs ordered, estimated to average C\$155, with the additional cost of re-inspection,
- higher maintenance costs of older vehicles, which would particularly affect consumer groups with lower incomes, and
- the time cost of about 15 minutes per inspection.<sup>381</sup>

## 7.4 Quebec's commitments on NO<sub>x</sub>, VOCs, and PM, 1996–2001

179. In 1996 MDDEP launched a pilot project called Air for the Future (*Un air d'avenir*), coordinated by the Submitter (AQLPA) and its forty partners.<sup>382</sup> The pilot was completed in December 1999 and renewed for a second phase ending in 2001.<sup>383</sup> The pilot involved free voluntary vehicle inspection clinics and the coordination of more than forty volunteer experts from the private and public

sectors.<sup>384</sup> AQLPA estimated that an I/M program in Phase I of the 1990 SMP would reduce NO<sub>x</sub> by 27% and VOCs by 12% in the QWC. AQLPA estimated that in Phase II, PM would be reduced by 14% and smog would be reduced by 10–15%.<sup>385</sup> Table 7 below shows the estimates for Quebec emission reductions in both phases:<sup>386</sup>

**Table 7: Air 1 report – Phases I and II of 1990 Smog Management Plan (CCME) – Projected emission reductions to 2010 (NO<sub>x</sub>, VOC, PM, smog)**

Territory	NO <sub>x</sub> Phase I	VOC Phase I	PM Phase II	Smog Phase II
Canada	23%	20%	no data	no data
Quebec/Windsor Corridor	27%	12%	14%	10–15%

180. According to the Submitter, the Air for the Future pilot I/M project involved a survey of Quebec's fleet of light-duty vehicles, to set the stage for a mandatory I/M program in Quebec.<sup>387</sup> In order

to conduct the survey, in 1997–1998 the project partners offered free inspections to 7,242 vehicles in around forty municipalities.<sup>388</sup> Approximately 16% of these vehicles failed the inspection.<sup>389</sup> After

380. *Ibid.* at 50.

381. *Ibid.* at 51–52.

382. *Submission, supra* note 5 at para. 24.

383. *Response, supra* note 9 at 7.

384. *Submission, supra* note 5 at para. 24. For a list of the partners, see *supra* note 89.

385. *Air 1, supra* note 49 at appendix 2, Phases I and II. Table 3 in section 6.1 of this factual record provides criteria air contaminants emission reductions for light-duty vehicles on the road. This table provides anticipated decreases from an I/M program for Quebec.

386. *Ibid.; Submission, supra* note 5 at appendix 15: AQLPA, *Un air d'avenir: Phase II* (Saint-Léon-de-Standon: AQLPA, 2001) [*Air 2*].

387. *Submission, supra* note 5 at para. 22–25; *Air 1, supra* note 49. The report compares their data with inspections sponsored by Environment Canada in 1997; the latter found an average fail rate of 16.96% for NO<sub>x</sub> and HC.

388. *Submission, supra* note 5 at para. 9; *Air 1, supra* note 49 at 25–26.

389. *Air 1, supra* note 49 at 29. The standards used to determine the failure rate were the hydrocarbon (HC) and carbon monoxide (CO) standards used by Environment Canada for its 1991 inspection clinics: *Ibid.* at 25 and 28.

receiving the Air 1 Report from AQLPA and its partners in April 1999, MDDEP mandated AQLPA to devote further study to aspects of the file considered high-priority by the partners, including training of mechanics, heavy-duty vehicle I/M programs, energy efficiency promotion, and environmental gains linked to GHG emissions.<sup>390</sup> AQLPA's second report ("Air 2 Report") was submitted to the Quebec government in 2001.<sup>391</sup>

181. AQLPA's Air reports included recommendations for the implementation of an I/M program for light-duty and heavy-duty vehicles. Specifically, the reports recommended the implementation of a hybrid version of the I/M program – centralized in urban areas and decentralized in rural areas – for light-duty vehicles three years or older, starting in the Montreal region, with mandatory inspection every two years. Test procedures would include both ASM tests for 1985–1995 vehicles and OBD II testing for newer vehicles; no such testing would be done on vehicles over four years old.<sup>392</sup> Gas cap tests were not included in the AQLPA plan.<sup>393</sup> In the Air 1 Report, the AQLPA stated that a permanent I/M program for light-duty vehicles would reduce emissions of certain gases, notably HC and CO, by approximately 25%.<sup>394</sup> In addition, depending on the parameters of the selected program, NO<sub>x</sub> emissions could be reduced by 3 to 13%.<sup>395</sup> Finally, such a program could reduce fuel consumption by 3 to 8% for light-duty vehicles. According to the report, I/M programs would be beneficial for Quebec's high-pollution areas and would reduce smog periods in the QWC.<sup>396</sup>
182. A working group formed by AQLPA's partners was assigned responsibility for examining I/M programs for heavy-duty vehicles.<sup>397</sup> It concluded that, although heavy-duty vehicles represent only

a small fraction of the Quebec auto fleet (3% in 1999), these vehicles were responsible for 60% of direct NO<sub>x</sub> emissions and 75% of PM emissions related to road transportation. The working group and AQLPA supported implementing I/M programs for heavy-duty vehicles in Quebec.<sup>398</sup> As a result of the working group's recommendation, the Air 1 Report includes recommendations on an I/M program for heavy-duty vehicles, stating that it would help reduce smog and acid rain.<sup>399</sup>

183. After four years in operation, the Air for the Future pilot projects ended in 2001. The Environment Minister had now received the two AQLPA reports. That same year, according to the Party, the MDDEP Division of Air Quality was created, composed of six full-time employees charged with the development of an I/M program for light-duty and heavy-duty vehicles. A budget of C\$2 million was allocated to the development of an I/M program between 2001 and 2003.<sup>400</sup> According to the Party, MDDEP then hired consultants to conduct an analysis and feasibility study on I/M programs, and to provide Quebec with estimates of the costs of such a program. SNC-Lavalin was engaged for this purpose; it submitted its final report to MDDEP in March 2002.<sup>401</sup>
184. The SNC-Lavalin report listed several priorities. SNC-Lavalin recommended the implementation of a centralized, mandatory heavy-duty vehicle I/M program. A cash incentive program for rapid retirement of older polluting vehicles (pre-1981 MY) was recommended. As for light-duty vehicles, SNC-Lavalin recommended time-of-purchase I/M programs for light-duty vehicles three years or older.<sup>402</sup> This recommendation was intended to prevent the sale into Quebec of non-compliant light-duty vehicles. The report also

390. *Ibid.*

391. *Air 2, supra* note 386.

392. *Ibid.*; *Air 1, supra* note 49 at 74.

393. *Air 2, supra* note 386 at 54.

394. *Air 1, supra* note 49 at 10.

395. *Ibid.* at 10.

396. *Ibid.* at 11 and 109.

397. *Submission, supra* note 5 at para. 27; *ibid.* at 111, and at appendix 5 for the detailed composition of the working group.

398. *Ibid.* at 111. According to the Party, the heavy-duty vehicle fleet represents 4% of Quebec's total fleet but accounts for 75% of respirable particles—the same numbers given by AQLPA. The Party provides information for PM but not for VOCs, HCs, and CO; see *Response, supra* note 9 at 9.

399. *Ibid.*

400. *Response, supra* note 9 at 8.

401. SNC-Lavalin, *Programme d'inspection et d'entretien des véhicules – Scénario d'implantation Québec, Rapport final* (Brossard: SNC-Lavalin, 2002) [SNC-Lavalin Report].

402. *Ibid.*

recommended that a cap (of around C\$450.00 per year) be placed on repairs, to alleviate financial hardship for persons on fixed incomes.<sup>403</sup> After a period of transition, according to the report, Quebec could implement mandatory I/M programs, with annual inspections for post-1996 MY light-duty vehicles equipped with OBD systems (which are less costly to inspect), and for some pre-1996 vehicles (those recommended by AQLPA). SNC-Lavalin suggested that an inspection fee of C\$30.00 be charged. Lastly, the SNC-Lavalin report estimated that I/M programs would cost C\$20 million per year to operate, with an initial budget of C\$40 million. It did not contain estimates on “green” jobs created by I/M programs.<sup>404</sup>

185. In summary, before the end of 2001, the Party states that in addition to commissioning the Ancil Committee Report, the AQLPA reports, and the SNC-Lavalin reports described above, Quebec had completed over 7,200 light-duty vehicle inspections in its voluntary inspection campaigns operated from 1997 to 1998.<sup>405</sup> The AQLPA advisory committee had met for a period of eight years, with a view to developing and implementing I/M programs for Quebec.<sup>406</sup> Finally, MDDEP and the Ministry of Health and Social Services, in conjunction with the City of Montreal and the CMM, had initiated an “Info-Smog” information program to keep citizens informed on daily air quality conditions.<sup>407</sup>

## 7.5 Quebec’s commitments on NO<sub>x</sub>, VOCs, PM, and CO<sub>2</sub>, 2001–2005

186. The second period marking Quebec’s approach to reducing emissions covers 2001 to 2005. In 2000, MDDEP announced its new air quality objectives, designed to reduce GHG,<sup>408</sup> NO<sub>x</sub>, VOCs, and PM. These were contained in the Quebec Plan of Action on Climate Change 2000–2002 (“QPACC 2000–2002”).<sup>409</sup> According to this plan, Quebec’s objective was to level off the rising curve of automobile-related emissions. As noted above, in 2001, Quebec decided to act in harmony with the CWS by adopting its levels for PM and ozone as the targets to be achieved by 2010 for the six Quebec census metropolitan areas with populations of 100,000 or more.<sup>410</sup>

187. According to QPACC 2000–2002, Quebec planned to undertake a mandatory I/M program for light-duty vehicles and a new program for heavy-duty

vehicles. These programs were described as follows in QPACC 2000–2002:

Implementation of a mandatory vehicle inspection and maintenance program. This program, covering heavy-duty and light-duty vehicles, will be based on a regulation. It will be phased in starting in 2002. The first phase of the program will apply to heavy-duty vehicles in all regions except the North and to light-duty vehicles in the Montreal region. Subsequent phases would cover the regions of Quebec City, Hull, and the rest of Quebec.<sup>411</sup>

188. A permanent I/M program for light-duty vehicles became a promising initiative following the finding that 55% of all transportation-related GHG emissions in Quebec came from light-duty vehicles.<sup>412</sup> The same conclusion applied to a

403. *Ibid.*

404. *Ibid.* Job creation (of green jobs) was considered in the Ancil Committee Report. It was estimated that an I/M program would create 200 full-time jobs directly as well as 800 jobs indirectly; *Ancil Committee Report*, *supra* note 363 at 46.

405. *Response*, *supra* note 9 at 13; *Information provided by Quebec, 2006*, *supra* note 43 at Tab G: MDDEP, *Rapport annuel de gestion 1998-1999* (Sainte-Foy: Gouvernement du Québec, 1999), at 30–31.

406. *Submission*, *supra* note 5, at para. 53.

407. *Ibid.* at 26. This program has been in place since 1994 for the summer and since 2002 for both summer and winter. It is in effect in several regions of Quebec. In addition to Info-Smog, MDDEP produces an air quality index that provides a user-friendly snapshot of air quality in Quebec. Since 2004, hourly updates have given the public a general rating of air quality as “good,” “acceptable,” or “poor.” The rating is based on measurements made at the various Quebec air quality monitoring stations.

408. GHGs include water vapor, carbon dioxide, methane, nitrous oxide, and ozone halocarbons. See “Greenhouse gases (GHG)”, *Climate Change Connection*, online: Climate Change Connection <<http://www.climatechangeconnection.org/Science/Greenhousegases.htm>>.

409. Government of Quebec, *Quebec Plan of Action on Climate Change, 2000–2002* (Quebec: Gouvernement du Québec, 2000) [QPACC 2000–2002] at 35–36; see also *Transportation and Climate Change*, *supra* note 62; *Submission*, *supra* note 5; *Air 2*, *supra* note 386 at 65–68.

410. *Quebec Five-Year Progress Report*, *supra* note 35 at 1–2; *Canada Five-Year Progress Report*, *supra* note 34.

411. QPACC 2000–2002, *supra* note 409.

412. *Ibid.* at 35.

permanent I/M program for heavy-duty vehicles, which would result in a significant decrease in GHG emissions and NO<sub>x</sub>, VOCs, and CO emissions.<sup>413</sup> QPACC 2000–2002 indicated a new phase-in date of 2002 for implementing an I/M program for heavy-duty vehicles in all regions of Quebec (except the North). I/M programs for light-duty vehicles in the Montreal region would also commence from 2002. Subsequent phases would include other urban centers such as the Quebec City and Gatineau regions, expanding eventually to other parts of the province.<sup>414</sup>

189. In QPACC 2000–2002, Quebec included heavy-duty vehicles in operational planning for the first time.<sup>415</sup> The climate change plan also emphasized emission control programs in Montreal and other urban centers, whereas previously – in the SMP, the Ancil Committee Report and the two AQLPA Air reports – priority had been given to the QWC.
190. As these plans for I/M programs were developed, several issues surfaced. MDDEP’s Division of Air Quality raised concerns over the lack of enforcement of s. 51 EQA and ss. 96.1 and 96.2 RQA and over the risk posed by polluting vehicles entering the province.<sup>416</sup> Their concerns related to the effects of the implementation of a mandatory I/M program in Ontario in the absence of such a program in Quebec. The Division of Air Quality noted that such a situation might encourage vehicle owners to avoid repairs by selling a non-compliant vehicle in a province that does not have a mandatory I/M program. Moreover, they stated that the verification (through SAAQ) of emissions equipment on vehicles imported to Quebec should be a first priority for any future Quebec I/M program.<sup>417</sup>
191. The Minister of the Environment of Quebec’s annual reports from 2001 to 2005 included updates on MDDEP’s progress under its climate change

plans, which included the decision to implement permanent I/M programs for both light- and heavy-duty vehicles.<sup>418</sup> The 2001 annual report, for instance, stated that significant actions had been taken to establish a consultative committee tasked with implementing I/M programs for light-duty vehicles. The report noted that MDDEP had also designed a bill on the issue, which had been through ministerial consultations, and the Ministry had also drafted a regulation regarding the establishment of a heavy-duty vehicle program.<sup>419</sup> The report highlighted the funding given to AQLPA and the pilot projects undertaken with Environment Canada as well as the encouragement given to vehicle owners to retire older vehicles from circulation in the Montreal region. Lastly, the report discussed several scenarios and parameters for the future implementation of an I/M program for both light- and heavy-duty vehicles.<sup>420</sup>

192. In 2003, the Minister of the Environment of Quebec addressed a memorandum to the Quebec Council of Ministers detailing the urgent situation on air pollution and providing his recommendation to implement heavy-duty vehicle inspection in Quebec.<sup>421</sup> According to the memorandum, there were 130,000 heavy-duty vehicles in Quebec, of which the Minister estimated 16,500 (around 14%) would fail emissions tests. According to the Minister, three options were open to address pollution from heavy-duty vehicles. The first was to maintain the status quo. The second was to implement a mandatory annual inspection and maintenance program for Quebec’s registered fleet, while the third was a roadside inspection program to be undertaken by the carrier enforcement officers of Quebec Highway Enforcement (*Contrôle routier Québec – CRQ*, an agency of the SAAQ), allowing for approximately 6,000 inspections per year.<sup>422</sup> In the Minister’s view, the third solution was preferable, because it would result every year in at least 50% of

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413. *Ibid.*

414. *SNC-Lavalin Report*, *supra* note 401; *QPACC 2000–2002*, *supra* note 409 at 36.

415. *QPACC 2000–2002*, *supra* note 409.

416. *MDDEP Enforcement Memorandum*, *supra* note 46 at 2. This memorandum from 2000 considered the inspection of anti-pollution devices in vehicles imported into Quebec.

417. *Ibid.* at 3. The same recommendation was made by the *SNC-Lavalin Report*, *supra* note 401.

418. These reports are published on the MDDEP website.

419. MDDEP, *Rapport annuel de gestion 2001–2002* (Sainte-Foy: Ministère de l’Environnement, 2002), online: MDDEP <[http://www.mddep.gouv.qc.ca/ministere/rapports\\_annuels/Rapportgestion2001-2002.pdf](http://www.mddep.gouv.qc.ca/ministere/rapports_annuels/Rapportgestion2001-2002.pdf)>, at 27–28.

420. The 2002–2003 annual report also discusses I/M programs; see MDDEP, *Rapport annuel de gestion 2002–2003* (Sainte-Foy: Ministère de l’Environnement, 2003), online: MDDEP <[http://www.mddep.gouv.qc.ca/ministere/rapports\\_annuels/Rapportannuel2002-2003.pdf](http://www.mddep.gouv.qc.ca/ministere/rapports_annuels/Rapportannuel2002-2003.pdf)>, at 34.

421. *2003 Minister Memorandum*, *supra* note 60.

422. *Ibid.* at 3–5.



the heavy-duty vehicles inspected (3,000 vehicles) being declared non-compliant and subsequently repaired – a substantial improvement in emission results for the fleet on an annual basis.<sup>423</sup>

193. The Minister's memorandum noted that particulate matter and smog pose a public health risk and that diesel vehicles produce higher levels of CO<sub>2</sub>. According to the Minister, there was broad support for I/M programs; indeed, environmental groups, auto industry representatives, and motorists were expecting the establishment of an I/M program after the pilot projects coordinated by AQLPA. The Minister advised that operational measures for an inspection and maintenance program for light-duty vehicles continued to be under study; the priority, however, was to implement a roadside program immediately for heavy-duty vehicles.<sup>424</sup>
194. The MDDEP 2003–2004 annual report then announced that a selective roadside inspections program for heavy-duty vehicles would be established in 2005.<sup>425</sup> Quebec had approved the third option recommended by the Minister in the memorandum (the roadside inspections) rather than a mandatory I/M program.<sup>426</sup> According to the annual report, MDDEP had reached an agreement in principle with SAAQ<sup>427</sup> authorizing CRQ to conduct environmental roadside inspections of vehicles emitting visibly excessive exhaust and to issue fines and notices of repair to non-compliant vehicle owners.<sup>428</sup>
195. MDDEP's 2004–2005 Annual Report included an update on the status of a permanent and mandatory I/M program for light- and heavy-duty vehicles.<sup>429</sup> According to the report, draft legislation for heavy-duty vehicles standards was submitted in 2005 and a training program for mechanics was created.<sup>430</sup> MDDEP's strategic plans<sup>431</sup> and annual reports subsequent to 2005<sup>432</sup> do not report on any plans or governmental measures for the I/M program for light-duty vehicles that had been envisaged in the QPACC 2000–2002.<sup>433</sup> The Secretariat asked the Party to provide additional information (documents and correspondence) dealing with this apparent change in I/M program strategy from 2003 to 2007. In the supplemental information it provided on 22 September 2008, MDDEP stated that no such document existed.<sup>434</sup>
196. At the end of the QPACC 2000–2002 initiatives, an I/M program for light-duty vehicles was thus not implemented. Moreover, a successor plan to QPACC 2000–2002 was not developed, and it would be several years before another such plan, called the Quebec Plan of Action on Climate Change 2006–2012 ("QPACC 2006–2012"), came into being. This plan noted that transportation emits the greatest volume of GHG (38.70%) and is on the rise, and it included 26 measures to address this. Not included in QPACC 2006–2012, however, was an I/M program.<sup>435</sup> One new measure adopted requires automobile manufacturers to meet annually established GHG ceilings starting

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423. *Ibid.* at 7.

424. *Ibid.*

425. MDDEP, *Rapport annuel de gestion 2003–2004* (Sainte-Foy: Ministère de l'Environnement, 2004), online: MDDEP <[http://www.mddep.gouv.qc.ca/ministere/rapports\\_annuels/rapport\\_2003-2004.pdf](http://www.mddep.gouv.qc.ca/ministere/rapports_annuels/rapport_2003-2004.pdf)> [MDDEP 2004 Annual Report] at 32.

426. 2003 Minister Memorandum, *supra* note 60 at 3–5.

427. Information provided by Quebec, 2006, *supra* note 43 at Tab 17: "Entente relative à l'application de la Loi sur la qualité de l'environnement entre le MDDEP et la SAAQ" (14 July 2006) [MDDEP-SAAQ 2006 Agreement].

428. MDDEP 2004 Annual Report, *supra* note 425 at 32. The Association of Mechanical Inspection Agents of Quebec (*Association des mandataires en vérification mécanique du Québec-ASMAVERMEQ*), recommended that PIEVAL be integrated with SAAQ's safety inspection program. PIEVAL is outside this program and administered roadside by the CRQ. PIEVAL is discussed in section 10 of the factual record.

429. MDDEP, *Rapport annuel de gestion 2004–2005* (Sainte-Foy: Ministère de l'Environnement, 2005), online: MDDEP <[http://www.mddep.gouv.qc.ca/ministere/rapports\\_annuels/rapport\\_2004-2005.pdf](http://www.mddep.gouv.qc.ca/ministere/rapports_annuels/rapport_2004-2005.pdf)>, at 49–50.

430. *Ibid.* at 50.

431. "Plan stratégique 2005–2008", MDDEP, online: MDDEP <[http://www.mddep.gouv.qc.ca/ministere/plan\\_statég05-08/index.htm](http://www.mddep.gouv.qc.ca/ministere/plan_statég05-08/index.htm)>.

432. MDDEP's 2007–2008 annual report states that MDDEP published a regulation on GHG emission standards for new light-duty vehicles on the model of California's standards; see MDDEP, *Rapport annuel de gestion 2007–2008* (Sainte-Foy: Ministère de l'Environnement, 2008), online: MDDEP <[http://www.mddep.gouv.qc.ca/ministere/rapports\\_annuels/rapport\\_2007-2008.pdf](http://www.mddep.gouv.qc.ca/ministere/rapports_annuels/rapport_2007-2008.pdf)>, at 77.

433. QPACC 2000–2002, *supra* note 409 at 36.

434. Request for supplemental information from the Secretariat dated 24 July 2008, and response from the Party (Canada/Quebec) (22 September 2008) [2008 Supplemental Information] at 6.

435. The 2006–2012 Quebec Plan of Action on Climate Change was adopted by decree no. 543-2006 on 14 June 2006, and amended by decree no. 1079-2007 on 5 December 2007; see Government of Quebec, 2006–2012 Action Plan, *Québec and Climate Change, A Challenge for the Future* (Québec: Gouvernement du Québec, 2008), online: MDDEP <[http://www.mddep.gouv.qc.ca/changements/plan\\_action/2006-2012\\_en.pdf](http://www.mddep.gouv.qc.ca/changements/plan_action/2006-2012_en.pdf)> [QPACC 2006–2012] at 8–12.

in 2010 (Measure 3).<sup>436</sup> Other measures required trucks to have speed limiter devices to maintain speeds below 105 km/hr on Quebec highways (Measure 10)<sup>437</sup> and a measure to support public awareness on air quality and for developing partnerships (Measure 18).

197. The Quebec government's schedule for implementing an I/M program and meeting emission targets as set in QPACC 2000–2002 ended in 2002.

## 7.6 Quebec's emission reduction commitments, post-2005

198. The third identifiable period, in a chronology of Quebec's approach to transportation-related emission reduction measures, began in 2005 and is marked by the creation of the PIEVAL (described above in section 6.5 and detailed further in section 10.2), and by the then still-pertinent question of the implementation of I/M programs for light-duty vehicles.
199. The Party asserts that during this period, in light of the recent technological and social changes that it identifies, its focus has justifiably shifted from light-duty vehicle emissions to heavy-duty vehicle emissions. The Party explains that:

Given the limited authority provided for enforcement in sections 96.1 and 96.2 of the Regulation respecting the Quality of the Atmosphere, [and] limited government resources, [...] the Government of Quebec has made a strategic choice. That is, to concentrate on the implementation of a program to monitor and inspect emissions from the most polluting vehicles – heavy vehicles, especially those fuelled by diesel.<sup>439</sup>

200. Nevertheless, according to the Party, an air quality monitoring team, the Quebec Climate Change Advisory Group on Environment and Automobiles (*Table de concertation sur l'environnement et les véhicules routiers*–TCEVR, or "Advisory Group") has been in place since 2002.<sup>440</sup> The Advisory

In the absence of a new plan, Quebec was not obligated to level off the ascending curve of transportation-related emissions after 2002. Furthermore, Quebec's schedule for meeting the targets and timelines set out in the 1990 SMP ended in 2005. As Quebec did not pledge to meet the new CWS for ozone and particulate matter – although it did agree to act in harmony with them<sup>438</sup> – it is not bound by the CWS special measures, plans, or timelines (the CWS target date ended in 2010).

Group gathers information on current environmental issues related to vehicle emissions and on issues relevant to light-duty vehicle I/M programs. In particular, the Advisory Group initiated discussions with the AQLPA (i.e. the Submitter), the Energy Efficiency Agency (*Agence de l'efficacité énergétique du Québec*–AÉÉ), SAAQ, and MDDEP regarding the implementation of I/M programs for light-duty vehicles.<sup>441</sup> In 2005, it recommended a mandatory inspection program for light-duty motor vehicles eight years or older.<sup>442</sup> The recommended mandatory inspection would constitute part of a mechanical inspection protocol, and would include the inspection of emission equipment and components.

201. The TCEVR includes representatives from various non-governmental organizations, including the Quebec Auto Dealers Association (*Corporation des concessionnaires d'automobiles du Québec*–CCAQ). The CCAQ provides further information on the TCEVR I/M program proposal. According to the CCAQ, one vehicle manufactured in 1993 emits as many pollutants linked to smog as twelve vehicles manufactured in 2006. The CCAQ claimed that at the time, Quebec had 4.25 million registered vehicles, of which 1.7 million were more than eight years old, thus polluting significantly more than newer vehicles which have better emission control system standards.<sup>443</sup> According to the CCAQ

436. *Ibid.* at 8.

437. *Ibid.* at 11. Quebec was the first of the NAAEC provinces to implement a speed limit measure designed to reduce emissions.

438. MDDEP *Ozone*, *supra* note 33.

439. *Response*, *supra* note 9 at 15.

440. *2008 Supplemental Information*, *supra* note 434 at 4.

441. *Ibid.* at 4. See *Table de concertation sur l'environnement et les véhicules routiers (TCEVR), Plan d'action 2006–2007* (TCEVR, 2006), online: Recyc-Québec <[http://www.recyc-quebec.gouv.qc.ca/Upload/Publications/CR\\_TABLES/CR\\_PlanAc06-07.pdf](http://www.recyc-quebec.gouv.qc.ca/Upload/Publications/CR_TABLES/CR_PlanAc06-07.pdf)>.

442. *SNC-Lavalin Report*, *supra* note 401. This is a measure recommended in the report.

443. *Corporation des concessionnaires automobiles du Québec (CCAQ), "OUI au programme d'inspection des véhicules de plus de huit ans, NON aux normes californiennes" Affaires Automobiles* (January-February 2007), online: Canadian Automobile Dealers Association (CADA) <[http://www.cada.ca/uploads/PDFS/publications/affairesautomobiles/pub\\_AA-2007-01-02.pdf](http://www.cada.ca/uploads/PDFS/publications/affairesautomobiles/pub_AA-2007-01-02.pdf)>.



website, the objective for a future I/M program should be to have all light-duty vehicles inspected at the point of sale: 1) to ensure that they are in good working order for the safety of drivers, 2) to check that they respect emission standards for the protection of the environment, and 3) to provide an incentive for vehicle owners to maintain their vehicles properly.

202. The CCAQ is conducting a survey to gather public input on an emission control program for light-duty vehicles.<sup>444</sup> The CCAQ estimates that of

Quebec's 1.7 million light-duty vehicles more than eight years old, 600,000 are involved in transactions every year, resulting in approximately 70% returning to Quebec's roads. By the CCAQ's calculations, if these vehicles were subject to systematic inspection and if 25% of them were repaired, CO<sub>2</sub> emissions would be reduced by 95,165 tonnes and fuel efficiency would improve by C\$75 per vehicle per year.<sup>445</sup> However, at the time of preparation of this factual record, the TCEVR I/M proposal (supported by the CCAQ) for light-duty vehicles in Quebec has not been implemented.

## 8. Legislative and regulatory context for transportation emission reductions in Canada and Quebec

203. Pursuant to Council Resolution 06–07, this section presents the federal and provincial context as well as a brief history of Quebec's adoption of the light-duty vehicle provisions of the EQA and the RQA. The history and context of these laws includes relevant facts from before the entry into force of the NAAEC on 1 January 1994. The section is divided as follows:

- an overview of federal laws on motor vehicles imported or manufactured in Canada and their engines, and the regulation of fuel;
- Quebec's jurisdiction and history of the adoption of the EQA and the RQA, including the right to a healthy environment and its protection under s. 19.1 EQA;

- Quebec's prohibition of emission of pollutants into the atmosphere by an engine or a motor vehicle under s. 51(a) EQA, and new GHG regulations;
- Quebec's requirement that vehicles be equipped with a pollution control device under s. 51(b) EQA and s. 96.1 RQA;
- Quebec's prohibition of the removal or alteration of a pollution control device under s. 96.2 RQA; and
- Quebec's penalties under ss. 109 and 109.2 EQA and s. 96.6 RQA for violations of ss. 51, 96.1, and 96.2 RQA.

### 8.1 Federal laws on motor vehicles and engines imported or manufactured in Canada and the regulation of fuel

204. Quebec's constitutional jurisdiction includes authority to make laws in relation to the sale and use of vehicles, and to air emissions from stationary sources within Quebec. The federal government, by contrast, has jurisdiction over the importation, exportation, and manufacture of motor vehicles. Canada and Quebec share jurisdiction over emissions from mobile sources. Provinces have the liberty to choose their own air pollution control methodologies, provided that these methodologies monitor compliance using models and analyses approved by the federal

government (in consultation with the provinces). CEPA Part 7 Division 6 provides that the federal government may act to prevent, control or correct a provincial source of air pollution but only if a province's inaction is adversely affecting a neighbouring jurisdiction's environment.<sup>446</sup>

205. On 31 March 2000, the federal legislative scheme for controlling on-road vehicle emissions was transferred from the *Motor Vehicle Safety Act*, administered by Transport Canada, to the new provisions in CEPA Part 7 Division 5, adminis-

444. "La bonne cible : Le programme d'inspection des véhicules de plus de huit ans", *Corporation des concessionnaires d'automobiles du Québec (CCAQ)*, online: CCAQ <<http://www.ccaq.com/fr/environnement/lengagement-de-la-ccaq.programme-dinspection-des-vehicu.php>>.

445. *Ibid.*

446. *CEPA*, *supra* note 22.

tered by Environment Canada. Thus, motor vehicles and engines imported or manufactured in Canada now fall under the responsibility of Environment Canada. CEPA Part 7 Division 5 is concerned with: vehicle, engine, and equipment emissions; provisions on the national emissions mark; standards for vehicles, engines, and equipment bearing a national mark; rules for compliance with these standards for imported vehicles and engines; and, exemptions for motor vehicles imported or manufactured in Canada. Division 5 applies generally to businesses and individuals importing or manufacturing vehicles for sale. Section 160 of CEPA sets out the regulations that may be made by the Minister of the Environment:

160(1) The Governor in Council may, on the recommendation of the Minister, make regulations for carrying out the purposes and provisions of this Division, including regulations: (a) respecting emissions and prescribing standards in relation to emissions; (b) establishing the national emissions marks; (c) respecting the conditions that must be met for a national emissions mark to be used in relation to vehicles, engines or equipment or a class of vehicles, engines or equipment; (d) respecting the manner of applying national emissions marks; [...]

160(2) Regulations prescribing a standard may be made applicable in respect of a specified proportion of vehicles, engines or equipment of a class before they are made applicable in respect of all vehicles, engines or equipment of that class.

206. More recently, in 2004, the *On-road Vehicle and Engine Emission Regulations* (“O-RVEER”) made under CEPA set emissions-related environmental performance standards for motor vehicles.<sup>447</sup> The regulations apply to vehicles and engines manufactured in Canada, or imported into Canada, on or after 1 January 2004.<sup>448</sup> By virtue of O-RVEER,

Canada’s emission standards are harmonized with those of the United States, which means that vehicles imported from the United States to Quebec or elsewhere in Canada must meet the same emission standards as those that have been manufactured in Canada.<sup>449</sup> In addition, s. 12(b) O-RVEER provides that all new light-duty vehicles sold in Canada must be equipped with OBD II systems (this obligation has existed since 1998).

207. Measures intended to lower pollution from emissions also include the regulation of fuel content. Under CEPA,<sup>450</sup> Canada regulates contaminated fuels<sup>451</sup> and diesel fuels,<sup>452</sup> as well as the chemical content of fuels, placing limits on concentrations of additives such as lead, benzene,<sup>453</sup> and sulfur.<sup>454</sup>

208. The history of leaded fuel regulation in Canada is particularly relevant in the context of the laws at issue. Leaded fuel was in widespread use since the 1920s in Quebec and Canada. Lead had been found to work well with internal combustion engines; however, studies began to demonstrate the adverse effects from lead on human health. This resulted in the first leaded fuel regulations in 1974. The following year, catalytic converters (systems for purifying gasoline engine exhaust) were introduced. It was soon found that leaded gasoline “poisoned” these catalytic converters, leading to further federal laws and regulations with respect to leaded fuel. Governments introduced measures such as price differentials in the 1980s, as well as prohibitions on tampering with catalytic converters. Quebec’s prohibition of tampering, enacted in 1985, is one of the laws at issue in the Submission.<sup>455</sup> Greater restrictions and tighter rules were imposed later, in 1987, before leaded fuel was prohibited altogether by the federal government in 1990 (with some exceptions for off-road uses such as racing and aviation).<sup>456</sup>

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447. *O-RVEER*, *supra* note 23.

448. Vehicles and engines manufactured or imported in Canada before 2004 must satisfy sections 9 and 10 of O-RVEER. Vehicles and engines manufactured or imported in Canada after 2004 must satisfy sections 11 and 12 of O-RVEER.

449. Canadian federal vehicle emission regulations had already been in large part harmonized with those of the US in 1988, and the 1997 amendments to the *Motor Vehicle Safety Regulations*, *supra* note 374, completed that harmonization process; see *Industry Canada Automotive Harmonization Initiatives*, *supra* note 374. In 2004 Canada has adopted the *On-Road Vehicle and Engine Emission Regulations* (O-RVEER, *supra* note 23). The new standards of 1997 and 2004 mean that Canadian emission standards will continue to be harmonized with those of the United States for each future MY.

450. *CEPA*, *supra* note 22, ss. 138–148.

451. *Contaminated Fuel Regulations*, SOR/9-486.

452. *Diesel Fuel Regulations*, SOR/97-110.

453. *Benzene in Gasoline Regulations*, SOR/97-493.

454. *Sulphur in Gasoline Regulations*, SOR/99-236.

455. *EQA*, *supra* note 6.

456. *Gasoline Regulations*, SOR/90-247. This regulation is now under CEPA 1999.

209. These developments form the background for the Submitter's assertions and the Party's Response. The Party states that, since the 1990 prohibition of leaded fuel, the problem of intentional deactivation of anti-pollution devices has declined in importance.<sup>457</sup> The Party notes that this is because vehicle owners no longer have an incentive to

remove the devices in order to make use of leaded fuel.<sup>458</sup> The Submitter and the Party both estimated that there were still, in the late 1990s, 600,000 vehicles (at least 16% of the light-duty vehicles then in use) that would not meet the anti-tampering requirements in ss. 96.1 and 96.2 RQA.<sup>459</sup>

## 8.2 Overview of the EQA, including section 19.1: the right to a healthy environment

210. Quebec's EQA came into force in 1972. In its first reading in the Quebec National Assembly, the Minister responsible explained that its purpose is to establish and elaborate measures for the protection of the environment. A more specific objective of the EQA, according to debates in the National Assembly in 1972, is to establish uniformity with regard to municipal by-laws on environmental protection and public health.<sup>460</sup> The law authorizes the Government of Quebec to prohibit, limit, and control sources of contamination, as well as the emission, deposit, and disposal of all classes of contaminants throughout the whole province.<sup>461</sup>

211. Section 19.1 of the EQA was amended in 1978 to provide that every person (human or corporate) has a right to a healthy environment and to its protection: Division III.1, titled "The Right to a Healthy Environment and to the Protection of Living Species."<sup>462</sup> The right to a healthy environment is applicable to the EQA and its regulations, such that the right only applies to the environmental laws contained within the EQA and not to Quebec's other environmental laws.<sup>463</sup> Division IV of the EQA covers emissions from motor vehicles, containing a general prohibition on emitting contaminants. Divisions III.1 and IV of the EQA apply to the environment as a whole, including the atmosphere, water and soil.

212. Under s. 47 EQA, the Minister of the Environment of Quebec (now MDDEP) is responsible for overseeing the establishment and operation of an air pollution alert and monitoring system, and may also acquire, make, and install any apparatus to measure the quality of the atmosphere, in addition to acquiring by agreement or expropriation any building or land necessary for that purpose. Pursuant to s. 53 EQA, the government may enact regulations to control the sale, use, and maintenance of motors and vehicles having the effect of emitting contaminants to the atmosphere. In particular, under ss. 53(a), (c) and (f) EQA, the Government of Quebec may make regulations applicable to all or part of the province in order to:

- a) classify motor vehicles and engines to regulate their use and withdraw certain classes from the application of this Act and the regulations;
- b) prohibit or limit the use of certain classes of motor vehicles or engines to prevent or to reduce the emission of pollutants into the air;
- c) determine the manner in which certain classes of motor vehicles or engines may be used and the manner of maintaining them, and prescribe, if need be, the installation of purification devices in accordance with the specifications which it determines and provide for the inspection of such devices; [...]
- f) establish standards and specifications for any motor-fuel and lubricant.<sup>464</sup>

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457. *Response*, *supra* note 9 at 6.

458. *Ibid.*

459. *Submission*, *supra* note 5 at para. 9; *Air 1*, *supra* note 49 at 29; *Response*, *supra* note 9 at 14. The Submitter and the Party both relied on data from the voluntary inspection clinics held in 1997–1998 under the auspices of the Air for the Future pilot project. The standards used to define the failure rate were the hydrocarbon (HC) and carbon monoxide (CO) emission standards used by Environment Canada for the 1991 inspection clinics; *Air 1*, *supra* note 49 at 25, 28.

460. *Journal of Assembly Debates*, 3<sup>e</sup> session 29<sup>e</sup> legislature, vol. 12, no. 59, 5 July 1972.

461. *EQA*, *supra* note 6, s. 31.

462. *Ibid.*; *Act to Amend the Environment Quality Act*, S.Q. 1978, c. 64.

463. The extent of section 19.1 rights are with reference to other EQA provisions, such as s. 20 which establishes the general prohibition on emitting contaminants into the environment, and s. 6 RQA, which sets atmospheric quality standards; Yvon Duplessis, Jean Héту & Jean Piette, comp., *La protection juridique de l'environnement au Québec : Comprendant une jurisprudence inédite des tribunaux québécois* (Montreal : Éditions Thémis, 1982) [Duplessis, Héту & Piette] at 48.

464. On section 53(f), see *Petroleum Products Act*, R.S.Q., c. P-30.01 [Petroleum Products Act], and *Petroleum Products Regulation*, R.R.Q., c. P-30.01, r. 1, O.C. 226-2007 [Petroleum Products Regulation].

213. While s. 53 EQA authorizes MDDEP to set air quality standards for all of Quebec, Montreal’s municipal authorities may also do so at the municipal level.<sup>465</sup>
214. Sections 50 to 53 of the EQA concern on-road motor vehicles.<sup>466</sup> Section 50 prohibits the offer for sale, the exhibit for sale, or the sale of an engine or a motor vehicle, the operation of which has the effect of emitting pollutants into the atmosphere, or which is not equipped with a required apparatus to reduce or eliminate the emission of contaminants. Section 51 of the EQA states that no one may use or permit the use of such an engine or a motor vehicle. Section 52 EQA obliges every owner of a motor vehicle which is a potential source of contamination of the atmosphere to ensure its maintenance in accordance with the standards provided by regulation.
215. According to the Party, vehicle owners were tampering with their exhaust purification systems to remove the catalytic converters and this practice

led the Quebec government to adopt anti-tampering regulations as part of the RQA.<sup>467</sup> In the course of one National Assembly debate, the Minister of the Environment of Quebec (now MDDEP) explained that:

[t]he federal government developed standards so that new cars would be equipped with an anti-pollution device. Nonetheless, even with these standards, car owners often took it upon themselves to modify or to remove the anti-pollution devices.<sup>468</sup>

216. The Minister explained that the draft regulation added anti-tampering provisions to ss. 50 and 51 EQA, thereby creating an obligation not to remove an anti-pollution device from a vehicle.<sup>469</sup> The law as drafted provides that cars must be sold, purchased, and used with functioning anti-pollution devices and that the devices (with certain exceptions) must not be modified or tampered with in any way.<sup>470</sup> The Minister also stated that emission standards would be adopted subsequently,<sup>471</sup> but this has yet to occur.

### 8.3 Quebec’s prohibition of motor vehicle emissions: section 51(a) of the EQA and new GHG regulations

217. As noted above, s. 51(a) EQA provides that “No one may use or permit the use of either an engine or a motor vehicle (a) the operation of which has the effect of emitting pollutants into the atmosphere [...]”. Section 1(6) of the EQA defines “pollutant” as a “contaminant or a mixture of several contaminants present in the environment in a concentration or quantity greater than the permissible level determined by regulation of the Government, or whose presence in the environment is prohibited by regulation of the Government”.
218. As was claimed in the Quebec legislative debates, the EQA was in part enacted to conform to federal standards. Regarding the “permissible level” of contaminants, the National Assembly recorded that “provincial regulation should be in conformity with the federal regulation,” since the sale and use of motor vehicles in Quebec would be regulated provincially while their manufacturing and importation would be regulated federally.<sup>472</sup> According to Quebec, the federal government

465. *Charter of the Ville de Montréal*, R.S.Q., c. C-11.4. The first delegation of authority to the Ville de Montréal occurred 23 February 1981.

466. The term “motor vehicle” is defined in s. 1(19) EQA to mean any motor vehicle within the meaning of section 4 of the *Highway Safety Code*, R.S.Q., c. C-24.2.

467. *Response*, *supra* note 9 at 6.

468. *Journal of Assembly Debates*, 3<sup>e</sup> session, 31<sup>e</sup> législature, Commission permanente de la protection de l’environnement, no. 159, 25 September 1978 [*Journal of Assembly Debates 25 September 1978*].

469. *Ibid.*

470. Section 96.3 of the RQA covers the exceptions. It states that ss. 96.1 and 96.2 do not apply to motor vehicles adapted to allow the use of propane or natural gas as their sole fuel, or to motor vehicles used during a competition held under the sponsorship of an international organization.

471. *Journal of Assembly Debates 25 September 1978*, *supra* note 468. The Minister added that it would not make sense for Quebec to adopt stricter emission standards than the federal government.

472. *Journal of Assembly Debates*, 14 December 1978, at B-9841.



should have adopted standards as strict as those in force in the United States.<sup>473</sup>

219. In 2009, the government of Quebec adopted the *Regulation respecting Greenhouse Gas Emissions from Motor Vehicles*, which set permissible levels of greenhouse gas emissions for each class of motor vehicles.<sup>474</sup> The purpose of this regulation is to reduce emissions of anthropogenic greenhouse gases that cause climate change and threaten the quality of the environment from vehicles sold, leased, or marketed in Quebec. To that end, the regulation specifies mandatory greenhouse gas emission standards applicable to large-volume manufacturers in 2009 and to medium-volume manufacturers in 2016 for various categories of light-duty vehicles sold in Quebec. To assist in the achievement of that objective, it establishes a system of charges for emissions in excess of the maximum standards. Notwithstanding the GHG emission standards applicable to manufacturers, the RQA currently does not establish any permissible levels of NO<sub>x</sub>/VOC contaminants or smog

precursors applicable to the sale or use of motor vehicles, nor does it clearly indicate that the federal standards apply in determining, for the purposes of ss. 50(a) and 51(a) EQA, the permissible levels of NO<sub>x</sub>/COV emitted into the environment by a motor vehicle sold or used, or in determining whether the emission equipment of a motor vehicle is in working order in the sense of s. 96.1. Thus, once a vehicle has been marketed the GHG emissions limits do not apply. However, a definition of permissible levels of emissions is included in the CCME proposal for a federal I/M program, and is now part of Quebec's current heavy-duty vehicle inspection program.<sup>475</sup>

220. Finally, though it does not directly establish emission limits for vehicles, in 2007 the National Assembly of Quebec passed a law governing petroleum products. The *Petroleum Products Act*<sup>476</sup> and its regulation<sup>477</sup> establish, *inter alia*, standards applicable to authorized types of petroleum products, which have an impact on motor vehicle emissions.

## 8.4 Quebec's requirements concerning the presence of pollution control devices in vehicles: s. 51(b) EQA and s. 96.1 RQA

221. Section 51(b) of the EQA provides that vehicles shall be equipped with a pollution control device:

51(b) No one may use or permit the use of either an engine or a motor vehicle [...] the use of which requires, under a regulation of the Government, the installation of an apparatus to reduce or eliminate the emission of contaminants into the atmosphere, unless the engine or motor vehicle is provided with such apparatus.

222. Furthermore, s. 53(c) EQA permits Quebec to regulate the use of motor vehicles and the manner of maintaining them. Under this authority, Quebec

has adopted regulations to establish ambient air and emission standards to control the emission of contaminants into the atmosphere. Although the RQA is mainly aimed at controlling emissions from stationary sources,<sup>478</sup> ss. 96.1 and 96.2 specifically address light-duty motor vehicle emissions.<sup>479</sup> Section 96.1 provides the following:

Any light-duty motor vehicle of a model subsequent to 1985 offered for sale, on display for sale, sold or used in Quebec must be equipped with a device in good working order to reduce the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere.

473. As stated above in para. 206, the federal standards applicable to vehicles and engines manufactured or imported in Canada have begun to be harmonized with those of the United States in 1988. See *O-RVEER*, *supra* note 23, and the 1997 amendments to the *Motor Vehicle Safety Regulations*, *supra* note 374; see also *Industry Canada Automotive Harmonization Initiatives*, *supra* note 374.

474. The new regulation, *Regulation respecting Greenhouse Gas Emissions from Motor Vehicles*, R.R.Q., c. Q-2, r. 17 [*Regulation respecting GHG from Motor Vehicles*], came into force on 14 January 2010 (under the EQA).

475. The *PIEVAL Regulation*, *supra* note 57, sets limits on hydrocarbon (HC) and carbon monoxide (CO) emissions from gasoline-fueled heavy-duty vehicles (or opacity for diesel vehicles) as a function of each MY, making it possible to determine whether or not the vehicle's anti-pollution system is working; ss. 6, 12, 14.

476. See ss. 5 and 96 of the *Petroleum Products Act*, *supra* note 464.

477. *Petroleum Products Regulation*, *supra* note 464.

478. *Duplessis, Héту, & Piette*, *supra* note 463 at 137.

479. RQA section 1(33) defines a light-duty motor vehicle as any motor vehicle equipped with a 4-stroke engine and whose gross weight as indicated by the manufacturer is not more than 2,700 kilograms.



This section does not apply to light-duty motor vehicles designed to comply with the emission standards in *Regulations under the Motor Vehicle Safety Act* (Revised Statutes of Canada, 1985, chapter M-10) without being equipped with a device covered by the first paragraph.

Section 96.1 of the RQA thus applies only to automobiles offered or displayed for sale, or sold or used, in Quebec. New light-duty motor vehicles already designed to comply with the federal *Motor Vehicle Safety Act* without needing an emission control device are not covered by the section.

223. The Party provided the following explanation of the above provisions:

Section 96.1 [...] reflects the problem created by leaded gasoline. It obliges all post-1985 light-duty motor vehicles offered for sale, on display for sale, sold or used in Quebec to be equipped with [...] an anti-pollution device, and in the second para-

graph refers to the federal emission standards for light-duty vehicles. Therefore, in the background of this provision, we have federal standards for vehicle safety and manufacturing, which were developed during the transition from leaded to unleaded gasoline. Moreover, the relevant standards are now those pursuant to the *Canadian Environmental Protection Act* (S.C. 1999, c. 33), rather than the *Motor Vehicle Safety Act*, the Revised Statutes of Canada (1985), c. M-10), which demonstrates a progression of thought towards increased concern for the environment.<sup>480</sup>

The Party thus notes that with regard to pollution control devices, the federal government's approach has evolved from a focus on safety concerns to a new environmental approach. This is reflected in the new federal regulations and standards on vehicles that became part of CEPA in 1999, and in the evolution of Quebec's laws for the protection of the environment and human health.

## 8.5 Quebec's prohibition of the modification of pollution devices in s. 96.2 RQA

224. Section 96.2 of the RQA provides:

No one may remove or modify or allow to be removed or modified any device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, or, in the case of a light-duty motor vehicle equipped with a catalytic converter, modify or allow to be modified the opening of the fuel tank or pour leaded gasoline therein.

225. Besides prohibiting the removal or modification of the anti-pollution device itself, s. 96.2 RQA establishes two additional prohibitions: against modifying the opening of fuel tanks, and against pouring leaded gasoline into the fuel tank.<sup>481</sup>

226. As noted in section 8.1 above, the Party elaborated on the purpose of Quebec's anti-tampering laws. Starting in the late 1970s, federal anti-tampering legislation required vehicle manufacturers to develop technical solutions to one of the basic

problems that created the need for I/M programs. Adjustable parameters such as base ignition timing, idle air-fuel mixture and idle speed were eliminated in the 1980s, helped in large part by the transition from carburetors to electronic fuel injection.<sup>482</sup> Anti-tampering provisions in Quebec date back to the 1974 introduction of catalytic converters, which are compatible only with unleaded gasoline.<sup>483</sup> Because catalytic converters lose their effectiveness if exposed to lead, the RQA, enacted in 1985, contains the provisions at issue intended to prevent the use of leaded gasoline in vehicles equipped with catalytic converters.<sup>484</sup>

227. When the Minister of the Environment of Quebec announced the regulatory provisions on pollution control devices, they were justified as an essential part of Quebec's fight against acid rain and its control of air pollution.<sup>485</sup> The Minister noted that this measure was the first time that Quebec had acted by way of regulation to control air pollution

480. *Response, supra* note 9 at 11–12.

481. Note that there are exceptions under s. 96.3 RQA. This section provides that ss. 96.1 and 96.2 do not apply to motor vehicles adapted to allow the use of propane or natural gas as their sole fuel, nor to motor vehicles used during a competition held under the sponsorship of an international organization.

482. *Response, supra* note 9 at 6.

483. *Ibid.*

484. *Ibid.*

485. Pierre Perreault, Minister of the Environment of Quebec, "Quebec Will Outlaw Removal of Pollution Control Devices from Cars," press release, MDDEP (6 July 1984).

caused by automobiles. The Minister's 1984 press release explained:

These measures will allow control of nitrogen oxide emissions, one of the two main sources of acid precipitation, the other being the emissions of sulphur dioxide. Cars are responsible for about 60 percent of total nitrogen oxide emissions in Quebec.<sup>486</sup>

228. As for the provisions on altering or tampering with pollution control devices, the MDDEP press release provided the following information:

The prohibition on altering gas tank openings on cars equipped with catalytic converter complements is another regulatory measure adopted recently by the Quebec government whereby it is forbidden to alter gasoline pump nozzles. The use of gasoline containing lead renders catalytic converters useless.<sup>487</sup>

Also according to the above press release, the then Minister stressed that this new regulation would enable citizens to do their part to fight acid rain.<sup>488</sup>

229. In this regard, the Party explains in its Response that in Canada, prior to the banning of leaded fuel, motorists may have been tempted to alter the fuel tank restrictor to allow the use of cheaper leaded fuel.<sup>489</sup> However, according to the Party, this problem eventually subsided when leaded fuel was banned in 1990.<sup>490</sup> Furthermore, emission control devices have become much more integrated into the engine, in contrast to the add-on systems of the

1970s and early 1980s. The Party explains that the last part of s. 96.2 RQA concerning the prohibition on modifying the opening of the fuel tank of a light-duty vehicle equipped with a catalytic converter or pouring leaded gasoline into the fuel tank has become irrelevant.<sup>491</sup>

230. The data from inspection clinics sponsored by MDDEP and Environment Canada show that modification of or tampering with anti-pollution devices remained an issue,<sup>492</sup> even after the legislation on anti-tampering was enacted in 1985 and after the ban on leaded fuel took effect in 1990.<sup>493</sup> Moreover, anti-tampering provisions have been incorporated into more recent laws for heavy-duty vehicles (such as Quebec's Heavy-duty Vehicle Inspection and Maintenance Program-PIEVAL) and into anti-tampering legislation found in other jurisdictions, even after 1990 when leaded gas was banned. The SMP, adopted that year by the CCME, recommended anti-tampering legislation as a complement to all I/M programs in the provinces, in order to reduce NO<sub>x</sub> and VOC emissions, and the CCME Code of Practice for light-duty vehicles recommended anti-tampering legislation in 1994, and again in 1998 in the Code's second edition. Moreover, in 1998, Quebec initiated a prosecution to enforce its anti-tampering law.<sup>494</sup>
231. Quebec has been overhauling the RQA since 2000. Both the MDDEP 2001–2005 progress report on the CWS and the MDDEP 2009 report on the implementation of the CWS from 2006 to 2008 highlight the need to finish the RQA's overhaul.<sup>495</sup>

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486. *Ibid.*

487. *Ibid.*

488. *Ibid.*

489. *Response, supra* note 9 at 6.

490. *Ibid.*

491. *Response, supra* note 9 at 11.

492. Further to inspection clinics held between 1991 and 1996 in certain urban centers of Canada, the CCME estimated that 22% of light-duty motor vehicles were non-compliant and that approximately 13.4% were non-compliant as a result of tampering. See 1998 CCME Code of Practice, *supra* note 18 at 2. See also S.J. Stewart, D.I. Gourley & J. Wong, *AirCare: Results and Observations in 2005 and 2006* (Burnaby: Pacific Vehicle Testing Technologies, 2005), online: Aircare <<http://www.aircare.ca/pdfs/2005-2006-Report-Full.pdf>>.

493. The remaining possibilities for tampering are illustrated by the patterns observed in the United States since the 1990s, during which time the EPA prosecuted several diesel engine manufacturers that had, before 1990, begun to install software in diesel engines that would cause their nitrogen oxide emissions to increase during on-road use. In an out-of-court settlement with the United States, the manufacturers agreed to provide "low NO<sub>x</sub> rebuild kits" and to install them in diesel engines during rebuilding, a practice that was to significantly reduce NO<sub>x</sub> emissions over the lifetime of these engines. "Letter to Heavy-Duty Engine Rebuilders", *United States Environmental Protection Agency (EPA), Office of Enforcement and Compliance Assurance* (27 May 1999), online: EPA <<http://www.epa.gov/compliance/resources/cases/civil/caa/diesel/letter.pdf>>.

494. See *supra* para. 61 of this factual record.

## 8.6 Penal sanctions associated with ss. 96.1 and 96.2 RQA

232. In 2010, the Minister of MDDEP tabled bill 89: *An Act to Amend the Environment Quality Act to Reinforce Compliance*. This bill contains new financial penalties for violations of ss. 50–52 EQA,<sup>496</sup> additional to those provided by s. 109:

Whoever contravenes this Act or a regulation made under it commits an offence and is liable, in all cases where no other penalty is imposed, to a fine of not less than C\$300 and not more than C\$5,000.

233. Section 109.1 provides that regulations may alter the basic penalties established in s. 109 with a view to establishing that offenders who are natural persons can be made liable on summary proceedings to fines from C\$10,000 to C\$25,000 and/or imprisonment for up to 18 months, and that offenders who are legal persons (corporations) can be made liable on summary proceedings to fines from C\$25,000 to C\$500,000. The higher fines are reserved for repeat offenders.

234. Any violation of ss. 96.1 or 96.2 RQA is considered an offence under s. 109 EQA, but specific penalties are also found in s. 96.6 RQA for a violation of s. 96.2:

96.6. A natural person who commits an offence against the provisions of section 96.2 is liable to a fine of \$500 to \$1,500 in the case of the first offence, and to a fine of \$1,000 to \$5,000 in the case of any subsequent offence, or, in either case, to imprisonment for not more than one year or to both the imprisonment and the fine.

A corporation that commits an offence against the provisions of section 96.2 is liable to a fine of \$2,500 to \$50,000 in the case of the first offence, and to a fine of \$10,000 to \$100,000 in the case of any subsequent offence.

235. Section 109.2 of the EQA broadens the class of potential offenders under the EQA. It states that “A person who does or omits to do something in order to assist a person in committing an offence against this Act or who counsels, encourages or incites a person to commit an offence, also commits the offence and is liable to the same penalty.”

236. Table 8 presents a summary of the offences under ss. 96.1 and 96.2 RQA. The corresponding penalty imposed under s. 109 EQA and s. 96.6 RQA is also presented.

**Table 8: Quebec penalties for violations – ss. 96.1 and 96.2 RQA**

Offence	RQA and EQA	Penalty (in Canadian dollars)
Using, permitting the use of, selling, offering for sale or displaying for sale in Quebec a light-duty motor vehicle of a model subsequent to 1985 not equipped with a device in good working order to reduce the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere	<ul style="list-style-type: none"> <li>96.1 RQA</li> <li>109 EQA</li> </ul>	<ul style="list-style-type: none"> <li>\$300 to \$5,000</li> </ul>
Removing or modifying, or allowing to be removed or modified, any device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment	<ul style="list-style-type: none"> <li>96.2 RQA</li> <li>96.6 RQA</li> <li>109 EQA</li> </ul>	<p><b>Natural Person:</b></p> <ul style="list-style-type: none"> <li>First offence: fine of \$500 to \$1,500; or imprisonment for not more than one year; or imprisonment and fine</li> <li>Second offence: fine of \$1,000 to \$5,000; or imprisonment for not more than one year; or imprisonment and fine</li> </ul>
Modifying, or allowing to be modified, the opening of a fuel tank of a light-duty motor vehicle equipped with a catalytic converter		
Pouring leaded gasoline into the opening of a fuel tank of a light-duty motor vehicle equipped with a catalytic converter		<p><b>Corporation:</b></p> <ul style="list-style-type: none"> <li>First offence: \$2,500 to \$50,000</li> <li>Second offence: \$10,000 to \$100,000</li> </ul>
Doing or omitting to do something in order to assist a person in committing any of the aforementioned offences, or counseling, encouraging or inciting a person to commit any of these offences	<ul style="list-style-type: none"> <li>109.2 EQA and the corresponding sections above</li> </ul>	(See the corresponding penalties above)

495. *Quebec Five-Year Progress Report*, supra note 35 at 10; *2009 Quebec Report on CWS*, supra note 36 at 16.

496. P.L. 89, *An Act to Amend the Environment Quality Act in order to Reinforce Compliance*, 1<sup>re</sup> sess., 39<sup>e</sup> legislature, 2010, s. 21, which adds s. 115.28 to the EQA.

237. Violations under the EQA are prosecuted under Quebec's penal procedures and are subject to a two-year limitation period under s. 110.1 EQA. In Quebec, prosecutorial procedures for offences under any provincial law or regulation are governed by the Code of Penal Procedure ("CPP").<sup>497</sup> They are instituted by a statement of offence under s. 144 CPP. Following an investigation by the Investigation Branch of the environment ministry, the decision to serve a statement of offence regarding violations under s. 109 EQA is made at the discretion of Quebec's Attorney General on the recommendation of the environment ministry (currently the MDDEP).<sup>498</sup> A private person may also directly report any activity that appears harmful to the environment to one of five regional MDDEP offices located in different parts of the province.<sup>499</sup> The only known prosecution under the laws at issue was brought in 1994. The Party has not provided any information on citizen complaints regarding violations of ss. 96.1 or 96.2 RQA.
238. Once a defendant is served a statement of offence, he or she must enter a plea of guilty or not guilty within 30 days.<sup>500</sup> In the former case, the defendant must transmit with the plea the whole amount of the fine and costs; if this is not done, an additional fine may be imposed.<sup>501</sup> Where the defendant has entered (or is deemed to have entered) a not guilty plea, the prosecution begins.<sup>502</sup> A judgment is rendered, and the sentence and the costs requested in the statement are imposed in the judicial district in which the proceedings were instituted.<sup>503</sup> Where the defendant has entered (or is deemed to have entered) a plea of not guilty,<sup>504</sup> the proceedings are tried by a judge of the judicial district where they were instituted.<sup>505</sup>
239. A penal proceeding is heard by the Criminal Division of the Court of Quebec. If the defendant fails to attend the trial, the judge may allow the proceedings to be tried and judgment to be rendered by default.<sup>506</sup> Under the CPP, the judge must do so in cases where the defendant is deemed to have entered a plea of not guilty.<sup>507</sup> The judge may acquit or convict the defendant, or dismiss the proceedings.<sup>508</sup>
240. The defendant has a right to a full and complete defence.<sup>509</sup> Section 60 of the CPP recognizes the defences generally applicable in penal and criminal matters. The general laws on defences, such as due diligence, mistake of fact, and officially induced error apply to prosecution of the strict liability offences created by ss. 109 and 109.1 EQA and ss. 96.1 and 96.2 RQA.<sup>510</sup> The defendant may thus be acquitted by proving on the balance of probabilities that he or she took all reasonable measures to avoid committing the offence.

497. *Code of Penal Procedure*, R.S.Q., c. C-25.1 [CPP], s. 1; see also *Response*, *supra* note 9 at 10. The Party notes that according to the CPP, the procedure to be followed for the institution of proceedings in the case of a regulatory offence is a statement of offence, and not an indictment or a summary conviction as is the case for criminal proceedings under the *Criminal Code*, R.S.C. 1985, s. C-46.

498. Since 2008, the Quebec Police Force (*Sûreté du Québec*) has been able to intercept some altered vehicles when they are stopped for emitting excessive noise. While inspecting the exhaust system to check the state of the muffler, the officers use the opportunity to ascertain the presence of a catalytic converter under section 96.1 of the RQA, which prohibits the use of a vehicle without a converter; *2011 Supplemental Information*, *supra* note 45.

499. When a complaint is made by a member of the public, an investigation may result in a penalty for the offence. For this, an MDDEP inspector must establish proof of guilt beyond reasonable doubt. The evidence is then submitted to the office of the Auditor General of the Ministry of Justice of Quebec, which issues a notice of offence to the alleged offender if it is deemed there are sufficient grounds to do so. MDDEP inspectors do not have the power to give out fines; only judges have that power, after having found the party guilty of the offence in question; see "Environmental Complaint Procedure", MDDEP, online: MDDEP <<http://www.mddep.gouv.qc.ca/ministere/plaintes/env-complaint.htm#meant>>.

500. *CPP*, *supra* note 497, s. 160.

501. *Ibid.*, s. 161.

502. *Ibid.*, s. 187 *et seq.*

503. *Ibid.*, s. 165.

504. *Ibid.*, s. 163.

505. *Ibid.*, s. 187. This section prescribes other alternatives.

506. *Ibid.*, s. 189.

507. *Ibid.*, s. 188.

508. *Ibid.*, s. 219.

509. *Ibid.*, s. 201. See also SEM-02-003 (*Pulp and Paper*), Factual Record (28 June 2006), at 129, on the general law of defences: "Penal actions are initiated with a notice of violation ("constat d'infraction")" under s. 144 of the CPP. Under section 60 of the CPP, "[t]he defences and the justifications and excuses recognized in penal matters or, adapted as required, in criminal matters apply [...]"

510. See *R. v. Sault Ste. Marie*, [1978] 2 S.C.R. 1299; *R. v. Wholesale Travel Group*, [1991] 3 S.C.R. 154; *Alex Couture Inc. v. Piette* (1991), 5 C.E.L.R. (N.S.) 314 (Que. C.A.) at 327. *Alex Couture* was a prosecution under s. 20 EQA in which the Court of Appeal referred to the due diligence defence as being available under the general law.

## 9. Enforcement of the laws at issue

241. Under the NAAEC, the effective enforcement of environmental laws can be pursued through a wide range of government actions, including those in the non-exhaustive list set out in Article 5 of the NAAEC. This section includes information on the following measures noted in Article 5 of NAAEC

that Quebec has taken with a view to enforcing its laws:

- penal prosecutions;
- roadside and repair shop inspections; and,
- educational and administrative measures.

### 9.1 Anti-tampering measures in Quebec and Canada

242. This section provides an overview of governmental measures taken by other Canadian provinces against tampering with vehicle pollution control systems and compares them with those adopted by Quebec.

243. Anti-tampering legislation has been in place in several Canadian jurisdictions for about two decades. New Brunswick introduced emission control inspections as part of its annual vehicle inspection requirement in 1984, under its motor vehicle safety legislation. The most recent legislation was enacted in 1998 in the Yukon. Most of the anti-tampering legislation for light-duty vehicles in Canada was introduced before the entry into force of the NAAEC in 1994, Ontario, BC, and the Yukon being exceptions. Heavy-duty vehicle anti-tampering legislation largely emerged after the NAAEC, although in only three jurisdictions (BC, Ontario, and Quebec).

244. There are four main types of anti-tampering enforcement measures in Canada:

- mandatory emission inspection and maintenance programs for all vehicles (programs may be centralized, decentralized, hybrid, or enhanced),
- annual or semiannual safety inspection programs that include emission control compliance for specific older MY vehicles,
- new car registration and safety inspections that assess compliance with anti-tampering laws,

- random roadside or shop inspections and opacity testing.

245. There are two broad approaches to anti-tampering laws taken by Canadian provinces, which have varying effects on the content of those laws. Some provinces consider anti-tampering legislation as a road safety measure, while others consider it as part of their environmental law. Provinces taking the road safety approach (like British Columbia and New Brunswick) tend to enforce their laws through new vehicle registration measures, or alternatively under an annual or periodic vehicle-safety inspection program. New Brunswick's program, for instance, requires the inspection of exhaust systems as an element of the official guidelines for mechanical vehicle safety. Quebec was the first province to take the environmental approach to anti-tampering, as a measure to combat acid rain. In this approach (adopted in Quebec, Ontario, and the Yukon), anti-tampering provisions are generally (though not in the Yukon) enforced through an I/M program for light- and/or heavy-duty vehicles.

246. The tables below describe anti-tampering legislation and enforcement measures according to jurisdiction. Of the three NAAEC provinces, only Quebec has enacted anti-tampering legislation. It is useful to note that the other two, Alberta and Manitoba, do not have high-pollution highway corridors. Provincial and territorial anti-tampering legislation is presented in Tables 10 and 11. Table 9 covers the provinces that signed the CIA.



**Table 9: Anti-tampering measures for light-duty and heavy-duty vehicles in CIA provinces**

CIA provinces	Legislation or measure	Enforcement program
<b>Quebec</b>	<p><i>Regulation respecting the Quality of the Atmosphere</i> (ss. 96.1, 96.2) It is illegal to remove or tamper with emission control equipment in light-duty motor vehicles.</p> <p><i>Regulation respecting Environmental Standards for Heavy Vehicles</i> (ss. 6–8) It is illegal to remove or tamper with emission control equipment in heavy-duty motor vehicles.</p>	<p>Enforcement for light-duty vehicles is limited to citizen complaints. No spot checks of emission systems by highway enforcement officers.</p> <p>Quebec does not include catalytic converter inspection as part of vehicle registration<sup>511</sup> nor during periodic safety inspection (which is nonexistent for light-duty vehicles).</p> <p>No I/M program for light-duty vehicles (although under study)</p> <p>PIEVAL (roadside I/M program). For heavy-duty vehicles, the carrier enforcement officers of Quebec Highway Enforcement (<i>Contrôle routier Québec</i> – CRQ, an agency of the SAAQ) conduct roadside inspection. If the vehicle fails an opacity test, a re-inspection is made at a facility.</p>
<b>Manitoba</b>	<p>No anti-tampering legislation for light- or heavy-duty vehicles, but catalytic converters are listed under equipment requirements for a vehicle in the provincial <i>Highway Traffic Act Vehicle Safety Inspection Regulations</i> (s. 1).</p>	<p>No I/M program for light- or heavy-duty vehicles</p> <p>Vehicle safety inspections include inspection for a catalytic converter for MY 1995 and newer, per the <i>Vehicle Inspection Handbook</i>. Inspection will fail if the catalytic converter is missing or has been replaced.</p> <p>A registration permit may be suspended, revoked or cancelled, if the device is not repaired.</p>
<b>Alberta</b>	<p>No anti-tampering law.</p>	

511. Thus, a vehicle found non-compliant in Ontario could be sold in Quebec, and would then be allowed on Quebec roads; *MDDEP Enforcement Memorandum*, *supra* note 46 at 2.

**Table 10: Anti-tampering measures for light-duty and heavy-duty vehicles in other provinces/territories**

Other jurisdiction	Legislation or measure	Enforcement program
<b>British Columbia</b> 1992 light-duty  1999 heavy-duty	<i>Motor Vehicle Act</i> , Division 40, “Motor Vehicle Inspection and Maintenance,” states that no person shall replace a defective or missing emission control device, including a catalytic converter.  <i>Heavy-duty Vehicle Diesel Emission Standards Regulation</i> (s. 7): same as above.	A visual check is part of the I/M program, focusing on the fuel cap of all vehicles plus an inspection of catalytic converter for 1988 MY and newer. No sanction or fines. Re-inspection and cost of repair to certify vehicle.  I/M program (centralized): roadside smoke opacity tests on vehicles considered possible high emitters. The roaming test vehicles operate mainly in the Lower Fraser Valley.
<b>Ontario</b> 1998 light-duty	Tampering is an offence under the <i>Environmental Protection Act</i> and Ontario Regulation 361/98.	Visual check is part of I/M program, including fuel cap integrity.  There is a decentralized program with testing performed by privately owned certified test and repair centers.  On-road smog patrol also performs visual inspection
<b>(Atlantic generally)</b> <b>New Brunswick</b> 1984	NB <i>Motor Vehicle Act</i> (s. 235) and <i>Vehicle Inspection Regulation</i> (6(1)(g)) requires inspection of exhaust system.	Safety inspection but no I/M program for light- or heavy-duty vehicles. Similar to Manitoba but with an annual inspection system. The NB Revised January 2004 Official Vehicle Inspection Station Manual requires a fail if any element of the exhaust system is rusted or deteriorated or any emission control system is removed, disabled, or altered from its original installation.
<b>Newfoundland</b> 1988	<i>Highway Traffic Act</i> (s. 192): It is illegal to remove or modify equipment and equipment must be maintained.	
<b>Nova Scotia</b> 1991	<i>Motor Vehicle Act</i> (s. 200) and <i>Regulation on Standards of Motor Vehicle Equipment</i> (s. 12(1) to (5)). Anti-tampering check for MY 1991 and later.	
<b>PEI</b> (1990)	PEI <i>Highway Traffic Act</i> (ss. 121 and 127(2)(b)) and <i>Regulation on Motor Vehicle Inspection</i> (s. 4(1)(h))	
<b>(Territories)</b> <b>Yukon</b> 1998	<i>Environment Act</i> and <i>Air Emission Regulation</i> (Part 111 s. 8): It is illegal to alter a vehicle’s air emission control system.	No I/M program for light- or heavy-duty vehicles.  Environment Yukon’s Monitoring and Inspections Section has enforcement responsibility. There is no mechanism for systematic vehicle inspections. Complaints may also result in enforcement action.
<b>NWT &amp; Nunavut</b>	<i>Motor Vehicle Act</i> (ss. 107, 128, 130)	Peace officers may perform roadside inspections for safety issues.

247. Of the eight jurisdictions with anti-tampering laws covering light-duty vehicles, only Quebec and the Yukon do not currently enforce these either during the registration process for new motor vehicles (which is nonexistent in the Yukon) or with any other form of mandatory inspection process.
248. Council Resolution 06-07 noted that the Party “did not indicate that the implementation of a vehicle inspection and maintenance program was a preferred means of enforcing compliance with s. 51 EQA and ss. 96.1 and 96.2 RQA.” (Appendix 1)<sup>512</sup> Indeed there is no requirement under the laws at

issue for Quebec to choose any particular method of enforcement over another. For the most part, the enforcement measures applied by the Party in the initial stages of implementation of the anti-tampering laws took the form of sporadic prosecutions initiated on the basis of evidence gathered outside any systematic inspection or verification program. Quebec’s use of prosecutions is highlighted in section 9.2.2 of the factual record (Appendix 9). It appears that after 1996, and in particular during the phases 1996–2001 and 2001–2005, prosecution was not the primary method of enforcement of the laws at issue.

## 9.2 Quebec’s approach to enforcement of its anti-tampering laws

249. This subsection reviews the Party’s efforts to enforce the anti-tampering laws and the require-

ment that light-duty vehicles be equipped with emission equipment in good working order.

### 9.2.1 Financial resources allocated to enforcement of the laws at issue

250. According to the Party, the MDDEP Division of Air Quality has existed since 2001 and is comprised of six full-time employees charged with the development of an I/M program.<sup>513</sup> The Party states that the team “continues with the thinking and updates the work” initiated by the Air for the Future (*Un air d’avenir*) project in 1997.<sup>514</sup> This team is now housed within the Climate Change Office (*Bureau des changements climatiques*). The Party states that a budget of C\$2 million was allocated to the development of an I/M program between 2001 and 2003, but there is no information regarding the proportion of that amount applied to the implementation of a program specifically for light-duty vehicles, or to the enforcement of the laws at issue.<sup>515</sup> According to the Party, at the time of its Response in February 2005, the annual operating budget of the Division of Air Quality was C\$415,000.<sup>516</sup> The annual report for 2006–2007 does

not report on measures related to light-duty vehicle emissions.

251. The Party supplied additional information regarding MDDEP’s operating budgets for the enforcement of environmental laws (Appendix 6).<sup>517</sup> The overall budget allocated to technical research and development of rules and regulations between 2001 and 2008 was about C\$460,200 (heavy-duty vehicles). From 1997 to 2004, approximately C\$631,300 was allocated to data collection, education, and mobilization of private-sector partners.<sup>518</sup> As for budget allocations for enforcement of the laws at issue, the Party states that it cannot provide a breakdown of the specific amounts related to ss. 19.1 and 51 EQA and ss. 96.1 and 96.2 RQA, since its budgets are not set up to reflect enforcement allocations for specific environmental laws.<sup>519</sup>

512. *Council Resolution, supra* note 12.

513. *Response, supra* note 9 at 7; *QPACC 2000–2002, supra* note 409. These resources were allocated following the government’s adoption of its climate change objectives.

514. *Response, supra* note 9 at 7; *Air 1, supra* note 49; *2003 Minister Memorandum, supra* note 60.

515. *Response, supra* note 9 at 7.

516. *Ibid.*

517. *2008 Supplemental Information, supra* note 434.

518. *QPACC 2000–2002, supra* note 409. Under Measure 18 in support of public awareness and partnership development, Quebec government decree 1270-2009 of 2 December 2009 allocated a maximum of C \$3 million to AQLPA for three fiscal periods, 2009–2010, 2010–2011, and 2011–2012, to deliver *Faites de l’air*, a program designed to take the more polluting pre-1985 vehicles off Quebec roads. See also “New National Scrappage Program”, *Environnement Canada*, online: Environment Canada <<http://www.ec.gc.ca/default.asp?lang=En&xml=5B400F8C-2A88-4E4B-BB75-A15BFF79D582>>.

519. *2008 Supplemental Information, supra* note 434 at 1.

## 9.2.2 Penal prosecution

252. The Party states that s. 96.6 RQA and s. 109 EQA authorize prosecutions of violations of the laws at issue. The Submitter alleges that there have been fewer than ten statements of offence concerning these sections during their nineteen years in force.<sup>520</sup> Further, the Submitter states that it is unknown how many of these indictments led to convictions.<sup>521</sup> In its Response of February 2005, the Party indicates a single case relevant to the laws at issue, *Québec (A.G.) v. Tremblay*,<sup>522</sup> which concluded in 1998.<sup>523</sup> The Party later provided a list of seven cases in which fines were levied for violations of ss. 19.1 and 51 EQA and ss. 96.1 and 96.2 RQA.<sup>524</sup> From 1996 to 2001, two inspections were conducted that led to investigations, but no indictments were issued.<sup>525</sup> More recently, the Party noted that since 2008, the Quebec Police Force (*Sûreté du Québec*) has been able to intercept some altered vehicles when they are stopped for emitting excessive noise. While inspecting the exhaust system to check the state of the muffler, the officers use the opportunity to ascertain the presence of a catalytic converter. If there is none, they write up a statement of offence under s. 96.1 RQA, which prohibits the operation of a vehicle without a converter. This procedure gave rise to 26 convictions between August 2008 and December 2010.<sup>526</sup>
253. The Party asserts that collecting the evidence necessary to issue a statement of offence under ss. 96.1 and 96.2 RQA is problematic. In the Party's view, *Québec (A.G.) v. Tremblay* is a good illustration of one of the few legal contexts in which s. 51 EQA and ss. 96.1 and 96.2 RQA can be effectively enforced.<sup>527</sup>
254. The Party provided the following information on the *Tremblay* case:
- [Under] the Quebec *Code of Penal Procedure*, (R.S.Q. c. C-25.1), [...] a statement of offence was served in June 1998, in the legal district of Quebec [...]. On or around August 26, 1996, André Tremblay removed [...] a catalytic converter from a 1989 Chevrolet Corsica in violation of section 96.2 of the *Regulation respecting the Quality of the Atmosphere* (R.R.Q. 1981, c. Q-2, r. 20), thereby [committing] an offence covered by section 109 of the Quebec *Environment Quality Act* (R.S.Q. c. Q-2), and becoming liable to the penalties provided in section 96.6 of the *Regulation respecting the Quality of the Atmosphere*.
- [...] The Defendant pleaded guilty [...] on July 14, 1998 and made a payment of \$600 covering the \$500 fine [the minimum fine for such an offence], as well as costs of \$100.<sup>528</sup>
255. This prosecution took place after the evidence on tampering was established in a civil case on the same facts and forwarded to the MDDEP Investigations Branch.<sup>529</sup> The prosecution arose neither from a roadside inspection nor an inspection campaign, nor from a complaint submitted by a private citizen or a shop. The defendant had replaced his catalytic converter with a five-dollar resonator purchased from a scrap yard. He had agreed to install a functional catalytic converter before selling the vehicle to the plaintiff, but failed to install it. The plaintiff then successfully sued for the breach of contract of sale, which led to the statement of offence in the subsequent prosecution.

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520. *Submission*, *supra* note 5 at paras. 9 and 29.

521. *Ibid.* at para. 5.

522. *Québec (A.G.) c. Tremblay*, case no. Q006004-CA (1998), *Response*, *supra* note 9 at 10.

523. The Party states: "The precise number of criminal prosecutions initiated to enforce sections 96.1 and 96.2 of the *Regulation respecting the Quality of the Atmosphere* since 1985 cannot be confirmed. The statistics compiled by the Ministère de l'Environnement and the Ministère de la Justice (Ministry of Justice) of Québec were not designed with the intention to tabulate the number of penal prosecutions initiated in accordance with the provisions of the various laws or regulations [...] The new computer system adopted by the Ministère de l'Environnement in 2003 has the ability to query the system for particular cases initiated since 2003." *Response*, *supra* note 9 at 9.

524. *Statements of offence under sections 96.1 and 96.2 of the RQA*, *supra* note 43. The list contains a total of eight offences that led to fines.

525. *Ibid.*

526. *2011 Supplemental Information*, *supra* note 45.

527. *Response*, *supra* note 9 at 12.

528. *Ibid.* at 10.

529. *Éric Jean v. André Tremblay*, n° 200-32-008965-963.

256. MDDEP's Division of Air Quality (the "Division of Air Quality"), which considered in 2000 the problem of enforcement of the laws at issue (Appendix 10),<sup>530</sup> concluded that the level of enforcement could be attributed, among other things, to the difficulty in properly identifying perpetrators, as well as the difficulty of gathering sufficient evi-

dence to establish that a device is not in "good working order" as required by s 96.1 RQA. This latter difficulty is, according to the letter in Appendix 10, related to the fact that the provincial regulations for light-duty vehicles do not contain emission standards against which a device can be measured.

### 9.2.3 Roadside and repair shop inspections

257. As discussed in section 9.1, there is no light-duty vehicle inspection program in Quebec that would facilitate enforcement of the laws at issue. Quebec does have a vehicle registration system including mandatory safety inspection by one of 149 SAAQ mechanical inspection agents, but these inspections do not include a routine check of the catalytic converter. The *Mechanical Inspection Guide*, the reference guide for mechanics working for SAAQ mechanical inspection agents, does provide for inspection of the exhaust system (exhaust pipe, muffler, and resonator) during safety inspections, but not for checks of the catalytic converter or vehicle emissions.<sup>531</sup> Additionally, as Quebec does not have a system of ongoing safety inspections for light-duty vehicles (unlike heavy-duty vehicles, for which periodic safety inspection is mandatory), once a light-duty motor vehicle is registered in the province, it does not undergo safety checks or testing of emission control compliance on a regular basis. For heavy-duty vehicles, while a routine check of the emission system is not part of mandatory periodic inspection, there is a specific I/M program for this purpose.

258. Nor is there any random checking of emission systems by the police. According to the Party, the EQA does not allow police officers to make random checks of on-road light-duty vehicles.<sup>532</sup> Given this fact, the Party has noted that such a

practice might be deemed to constitute illegal detention and as such would violate the Canadian Charter of Rights and Freedoms as well as the Quebec Charter of Human Rights and Freedoms.<sup>533</sup> The Party explains that the general provisions governing highway inspection powers held by peace officers in Quebec are found in s. 636 of the *Highway Safety Code*. Pursuant to this section, a peace officer may randomly stop and inspect vehicles in order to enforce the provisions of the code, but cannot do so to enforce an environmental provision of the EQA except by virtue of an agreement between MDDEP and SAAQ pursuant to s. 519.65 of the *Highway Safety Code*. Thus, under the auspices of an agreement between the responsible ministry and SAAQ, the SAAQ carrier enforcement officers, who are peace officers, could enforce the laws listed in s. 519.65 of the *Highway Safety Code*, which include the EQA. However, MDDEP does not have an agreement on light-duty vehicles for this purpose, only an agreement on heavy-duty vehicles.<sup>534</sup> However, since 2008, the Quebec Police Force (*Sûreté du Québec*) has been able to intercept some altered vehicles when they are stopped for emitting excessive noise. While inspecting the exhaust system to check the state of the muffler, the officers use the opportunity to ascertain the presence of a catalytic converter. If there is none, they write up a statement of offence under s. 96.1 RQA, which prohibits the use of a vehicle without a converter.<sup>535</sup>

530. MDDEP Enforcement Memorandum, *supra* note 46 at 2-3.

531. SAAQ, *Mechanical Inspection Guide* (Quebec, 2002) [SAAQ *Mechanical Inspection Guide* 2002] at 67-68. A vehicle's anti-pollution system is composed of an exhaust pipe, an oxygen sensor, a catalytic converter, a muffler, a resonator, and a tailpipe.

532. *Response*, *supra* note 9 at 12.

533. *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (U.K.), c. 11; *Charter of Human Rights and Freedoms*, R.S.Q., c. C-12. The Party states that when s. 51 EQA was enacted in 1972, there was not yet any jurisprudence establishing that random stopping of motor vehicles could constitute illegal detention (neither the *Canadian Charter of Rights and Freedoms* (Part 1 of the *Constitution Act, 1982*) nor the *Quebec Charter of Human Rights and Freedoms* had been adopted at that time). However, ss. 96.1 and 96.2 of the RQA were enacted in 1985 after the entry into force of the two charters.

534. *Response*, *supra* note 9 at 12; *Highway Safety Code*, R.S.Q., c. C-24.2, ss. 636, 519.65. See also *MDDEP-SAAQ 2006 Agreement*, *supra* note 427. Developments on CRQ inspections for heavy vehicles are found in the SAAQ's 2006 action plan. The plan, at page 14, includes the objective of an agreement with MDDEP between 2006 and 2010 to implement PIEVAL. The 2007 and 2008 CRQ action plans do not contain confirmation of the agreement or actions undertaken by the CRQ in regard to PIEVAL. On 4 August 2009, MDDEP and CRQ launched "Operation Smoke 2009"; see "Vérification des émissions polluantes des véhicules lourds; lancement de l'opération Boucane 2009", press release, MDDEP (4 August 2009), online: MDDEP <<http://www.mddep.gouv.qc.ca/Infuseur/communiquer/communiquer.asp?no=1549>>.

535. *2011 Supplemental Information*, *supra* note 45.



The Submitter did not comment on the legality of roadside inspections but did make the assertion that police officers in Quebec have neither the “responsibility nor the training or equipment to determine whether the emission systems of light-duty vehicles operating on Quebec roads are in good working order.”<sup>536</sup>

259. Thus, the available means of enforcing the provisions at issue in the case of light-duty vehicles are limited to prosecution in response to citizen complaints, which could not be expected to generate many convictions. On this subject, the Party comments:

Indeed, how could we subject all automobiles in Quebec to a systematic inspection to verify that anti-pollution systems have not been removed or modified in light- or heavy-duty vehicles (while they are required by law), and then gather the evidence necessary for the institution of a penal proceeding?<sup>537</sup>

260. The Division of Air Quality of MDDEP states likewise that in 2000 it identified a barrier to enforcement of the laws at issue in the form of limited enforcement resources,<sup>538</sup> and in particular the lack of a special unit with capacity to inspect vehicles at garages and shops. Moreover, the Party raises the possibility in its Response of sending MDDEP inspectors to automotive repair shops to ensure that the motor vehicles brought in for maintenance or repair are properly equipped.<sup>539</sup> The Party states that since it is not aware of any organized network of shops that are known to remove or modify pollution control devices, inspectors would have to inspect shops at random, or organize inspection campaigns. The Party finds that this enforcement option is inadequate because there is no guarantee that the use of energy and financial resources would produce a significant number of convictions.<sup>540</sup>

261. In its memorandum of 2000,<sup>541</sup> the Division of Air Quality of MDDEP proposed an alternative, less costly solution; namely, that MDDEP require vehicle owners to have their vehicles’ emission equipment tested at an existing safety inspection program, such as the one currently operated by SAAQ for purposes of vehicle registration. The proposal further notes that if an agreement with SAAQ were drafted with the objective of restricting the road access of non-compliant vehicles (rather than the present objective of obtaining penalties), MDDEP would no longer have the burden of mounting a legal case. The onus would shift to the owner to contest a decision by a SAAQ-accredited facility to require repair of a non-compliant vehicle. The Division of Air Quality also recommended that MDDEP consider an amendment of s. 96.1 RQA to include vehicle emission standards, so that the new standards could be enforced by a mechanical inspection agent certified by SAAQ. At the time of writing, these recommendations had not been implemented.

262. The Party highlights major enforcement dilemmas encountered with similar programs in neighbouring states and provinces, and points to “difficulties in structuring an I/M program for light vehicles.” According to the Party, creating such a program would have to account for the “American experience, the socioeconomic constraints,”<sup>542</sup> but also technological developments in methods to measure automobile emissions,<sup>543</sup> such as OBD II systems.

263. Regarding socioeconomic constraints, the Party cites a 2001 United States National Research Council report entitled “Evaluating Vehicle Emissions Inspection and Maintenance Programs” (the “US NRC Report”).<sup>544</sup> This report concluded that, although I/M programs for vehicles are vital for maintaining air quality, they can give rise to socio-

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536. *Submission*, *supra* note 5 at 2.

537. *Response*, *supra* note 9 at 12.

538. *MDDEP Enforcement Memorandum*, *supra* note 46 at 2.

539. *Response*, *supra* note 9 at 14.

540. *Ibid.*

541. *MDDEP Enforcement Memorandum*, *supra* note 46 at 2.

542. *Response*, *supra* note 9 at 7–8.

543. *Ibid.* at 7.

544. *US NRC Report*, *supra* note 37 at 5, 184. The *US NRC Report* is cited in the *Response*, *supra* note 9 at 8, and also in *2008 Supplemental Information*, *supra* note 434 at 5. MDDEP cites another source of information regarding the socioeconomic problem posed by current I/M programs: “Cars and Light Trucks, Inspection & Maintenance (I/M) – Program Evaluations”, *United States Environmental Protection Agency (EPA)*, online: EPA <<http://www.epa.gov/oms/epg/progeval.htm>>.

economic challenges since higher-emitting vehicles are more likely to be owned by persons of lower income.<sup>545</sup> According to the Party, for any I/M program to be socially and politically acceptable, it must account for this potential unfairness by providing incentives or assistance for owners of high-emitting vehicles to obtain the necessary repairs.<sup>546</sup>

264. The US NRC Report indicates that average repair costs of vehicles failing inspections vary significantly depending on the I/M program. In the United States, states have responded by issuing waivers for some vehicles, once a minimum repair cost has been paid. However, this approach naturally limits potential air quality improvements. The US NRC Report suggests that offering repair subsidies or repair insurance and generally expanding social assistance programs constitutes a better approach.<sup>547</sup> The Party notes that these alternative solutions are under consideration in Quebec, as well as implementation of an I/M program restricted to second-hand vehicles. According to the Party, this last option would encourage the disposal of polluting vehicles, as owners would have to choose either to invest in complete repairs or to scrap their vehicles.<sup>548</sup> The Party states that this restricted I/M program could be implemented alongside an incentive or assistance program.
265. The second issue noted by the Party that must be considered in developing an I/M program is the technological requirement, in place since 1998 (1996 in the United States), that light-duty vehicles be equipped with OBD II systems. The Party notes that tailpipe emission testing is no longer the most suitable method to measure emissions from all vehicles. In its view, an I/M program based on tailpipe emissions would require hundreds of immobile apparatuses (costing C\$60,000 each) and the

creation of a network of inspection facilities, which would take at least two years to implement.<sup>549</sup> The Party notes that tailpipe testing is becoming outdated, given the prevalence of OBD II systems, which now alert the vehicle owner of the need to repair defective parts.

266. The Party asserts that most North American jurisdictions with I/M programs are replacing tailpipe emission testing with OBD testing, and it cites Ontario and British Columbia as examples.<sup>550</sup> The Party explains that OBD testing would be less costly than tailpipe emission testing, as it could be done at existing facilities using a handheld apparatus costing less than C\$500. Each test would cost around C\$15, rather than the C\$40 needed to test tailpipe emissions. The Party estimated (in 2005) that by 2007, 82% of all light-duty vehicles would be equipped for OBD testing. Based on these numbers, the Party concludes that tailpipe testing would not be appropriate for most vehicles. The Party states that an adequate I/M program for light-duty vehicles in Quebec should be structured in two parts: 1) systematic OBD testing for recent models, and 2) tailpipe emission testing on a limited scale for pre-1996 models, possibly only applicable to used vehicles.<sup>551</sup> This approach was also recommended by the Submitter in the Air 1 Report to MDDEP.<sup>552</sup> The US NRC Report likewise stated that with further technological advancements, the OBD system promises to greatly speed up the vehicles inspection process, saving time and money.<sup>553</sup> However, the Party flags an issue with current OBD testing protocols which are said to present unresolved problems.<sup>554</sup>
267. Lastly, the Party asserts that heavy-duty vehicles have become an even greater problem than light-duty vehicles.<sup>555</sup> Given this situation, the Party concludes that with respect to light-duty vehicles:

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545. *US NRC Report*, *supra* note 37 at 184.

546. *Response*, *supra* note 9 at 8.

547. *Ibid.*

548. *Ibid.*

549. *Ibid.*

550. To perform the test an inspector connects a test device to the vehicle's OBD system. This device loads the information from the OBD system and determines whether it is in a testable state. If so, the OBD test proceeds and checks the various components of the OBD system. In most cases, if the vehicle fails the test, a tailpipe test is then performed; see "Inspection Info—Description of the Tests; On-Board Diagnostic (OBD) Test", *AirCare*, online: <http://www.aircare.ca/inspinfo-desc-obd.php>.

551. *Response*, *supra* note 9 at 10.

552. *Air 1*, *supra* note 49 at 74.

553. *US NRC Report*, *supra* note 37 at 43.

554. *Response*, *supra* note 9 at 9.

555. *Ibid.*

[...] the Ministry prefers to orient its future actions along the same lines as the technological, legal and social changes that have taken place since 1985. The expectation is that this will avoid the major dilemmas for enforcement that many programs in the United States have faced, some of which led to a temporary suspension in the enforcement of the program.<sup>556</sup>

268. While there is to date no I/M program for light-duty vehicles, the Party indicates, without providing further details, that such a measure is under study:

[...] no terms have been issued regarding the form that a potential program for light-duty vehicles could take [...]. MDDEP is currently awaiting recommendations from the advisory committee.<sup>557</sup>

#### 9.2.4 Educational programs and administrative measures

269. Beyond the above approaches to enforcing the laws at issue, Quebec has also used various educational and administrative measures, such as voluntary inspection campaigns, to raise public awareness regarding motor vehicle pollution and the health-related effects it has on air quality.

270. The Party states that MDDEP, in conjunction with other institutions, has carried out educational activities in conjunction with its enforcement of the laws at issue. These activities targeted various audiences, including the general public, drivers, automobile associations, and repair shop owners. According to the Party, the activities encourage proper maintenance of pollution control devices by vehicle owners. The educational activities carried out by Quebec can be listed here, although dates were not provided. They include:

- the production of a documentary video with background information for repair shop mechanics,
- MDDEP visits to mechanic training facilities and the production of a brochure, and

- MDDEP collaboration with the Montreal Urban Community (MUC, now the CMM) in the preparation of a survey of the effects of automobile regulation.

271. MDDEP also undertook administrative measures such as vehicle inspection clinics and workshops in 1988–1991 and 1997–1998. The purpose of these voluntary inspection measures was to gain better knowledge of the status of the Quebec automobile fleet. Two inspection campaigns conducted in 1988–1991<sup>558</sup> covered 1,500 automobiles. In workshops conducted by AQLPA (i.e. the Submitter) through the pilot project Air for the Future in 1997–1998, approximately 7,200 Quebec automobiles were inspected.<sup>559</sup> According to the Party, an analysis of the 1997–1998 inspection clinics concluded that the rate of emission failures had decreased slightly to 16%, compared with the rates recorded by MDDEP in 1988–1991.<sup>560</sup> The Party concludes that the slight decline was probably due to improvements in the mechanical reliability of anti-pollution devices.

### 9.3 Other Quebec emission reduction measures

272. The Party states that Quebec has taken a number of other initiatives to reduce transportation-related emissions, and it provides a list of websites detailing other preferred measures relating to emissions

and air quality.<sup>561</sup> Not all of these measures are mandated by s. 51 EQA, but several can be linked to s. 53 EQA. Two legislative measures in this regard, discussed in section 8.2 of this factual

556. *Ibid.* at 15.

557. 2009 Supplemental Information, *supra* note 63, at 11.

558. Response, *supra* note 9 at 13.

559. *Ibid.* at 13–14.

560. The standards used to determine the failure rate were the hydrocarbon (HC) and carbon monoxide (CO) standards used by Environment Canada for its 1991 inspection clinics; *Air 1*, *supra* note 49 at 25, 28.

561. 2008 Supplemental Information, *supra* note 434 at 6–8.

record, were the *Regulation respecting Greenhouse Gas Emissions from Motor Vehicles*<sup>562</sup> and the *Petroleum Products Act*<sup>563</sup> and its regulation.

273. The Party mentions, among other emission reduction measures, fiscal measures including partial reimbursements for the purchase of hybrid vehicles, and penalties for fuel-inefficient vehicles such as additional registration fees for vehicles with an engine displacement of 4 liters or more, if the model year (MY) is more recent than 1995.<sup>564</sup>
274. The Party states further that in 2008, the Quebec Energy Efficiency Agency (*Agence de l'efficacité énergétique*—AEÉ) submitted a comprehensive plan for energy efficiency and new technologies to Quebec's Energy Regulatory Agency (*Régie de l'énergie du Québec*).<sup>565</sup> The plans with respect to light-duty vehicles include an incentive program for the purchase of new low-emission vehicles, driver education to encourage more energy-efficient driving behaviour, and incentive programs for the maintenance and repair of existing vehicles and for fuels.<sup>566</sup> In 2009, the AEÉ decided to provide resources in support of a project aimed at reducing

the fuel consumption of heavy-duty vehicles.<sup>567</sup> Quebec has also committed to investing in a pilot project involving low-speed electric vehicles.<sup>568</sup>

275. At the municipal level, public awareness measures include a “Stop the engine” (*Coupez le moteur*) campaign to discourage engine idling.
276. Among measures to promote alternatives to the use of motor vehicles, MDDEP operates a website for young people to inform them of environmental measures and “green” transportation.<sup>569</sup> Quebec encourages businesses to support workplace commuting measures and alternatives for travel between home and the workplace, such as workplace car pools. Lastly, the Montreal Transit Corporation (*Société de transport de Montréal*—STM) promotes mass transportation as an alternative measure to reduce emissions from vehicles. Amongst the core corporate values of the STM are air quality and sustainable development. The STM recently reported an increase of 5.35% in ridership, which by their calculations has resulted in a reduction of 41,500 tonnes of GHGs and the equivalent benefit of removing 7,300 vehicles from the road.<sup>570</sup>

## 10. An Overview of I/M Programs for Heavy-duty Vehicles in Canada and Quebec

277. Quebec's Heavy-duty Vehicle Inspection and Maintenance Program (PIEVAL) is a measure taken after the Submission was received by the Secretariat in 2004. The Submitter did not submit assertions involving heavy-duty vehicle emissions. The Party recognizes that PIEVAL is not a measure taken to enforce ss. 96.1 and 96.2 RQA,

but states that s. 51 EQA also applies to heavy-duty vehicles and that PIEVAL is therefore an enforcement measure for this provision.<sup>571</sup> The Council instructed the Secretariat to include the history, context and development of PIEVAL in the factual record.<sup>572</sup>

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562. *Regulation respecting GHG from Motor Vehicles*, *supra* note 474.

563. *Petroleum Products Act*, *supra* note 464.

564. *Ibid.*

565. Agence de l'efficacité énergétique (AEÉ), *Plan d'ensemble en efficacité énergétique et nouvelles technologies 2007–2010* (Québec: AEÉ, 2008), online: AEÉ <[http://www.efficaciteenergetique.mrnf.gouv.qc.ca/fileadmin/medias/pdf/plan\\_ensemble\\_2007-2010\\_vamendee.pdf](http://www.efficaciteenergetique.mrnf.gouv.qc.ca/fileadmin/medias/pdf/plan_ensemble_2007-2010_vamendee.pdf)>.

566. *2008 Supplemental Information*, *supra* note 434 at 7.

567. QPACC 2006–2012, *supra* note 435, Measure no. 20, at 47; see “Technoclimat”, *Ministère des Ressources naturelles et de la Faune du Québec* (MRNF), online: MRNF <<http://www.efficaciteenergetique.mrnf.gouv.qc.ca/innovation-technologique/technoclimat>> (previously on the AEÉ website: <<http://www.aee.gouv.qc.ca/innovation-technologique/technoclimat>>).

568. *2008 Supplemental Information*, *supra* note 434 at 7.

569. *Ibid.* at 9. See also QPACC 2006–2012, *supra* note 435.

570. Société de transport de Montréal (STM), “Les effets structurants de la Politique québécoise du transport collectif, avril 2006 à 2009”, special issue of *La STM en mouvement* (Fall 2009).

571. *2008 Supplemental Information*, *supra* note 434.

572. *Council Resolution*, *supra* note 12.



## 10.1 Heavy-duty vehicle I/M programs in Canada

278. The three currently operating Canadian heavy-duty vehicle I/M programs are in provinces that have air quality issues in high-pollution zones listed in the SMP of the CCME—namely, Quebec (*Programme d'inspection et d'entretien des véhicules automobiles lourds*, or PIEVAL), British Columbia (*AirCare*), and Ontario (*Drive Clean*). Most tests measure NO<sub>x</sub>, CO, and HC emissions.<sup>577</sup> Typically, heavy-duty vehicle emission I/M programs include one or two test procedures, such as the non-dynamometer smoke measurement test, the non-dynamometer non-diesel engine idle emissions test, and visual component inspections.<sup>578</sup>
279. By way of background, the class of heavy-duty vehicles may be separated into three broad categories according to weight.<sup>573</sup> Those greater than 3,855.6 kg and less than 6,400 kg gross vehicle weight rating (GVWR) mostly run on gasoline and tend to be used in urban settings. Vehicles greater than 6,400 kg and less than 11,800 kg GVWR are equally divided by fuel type (gasoline or diesel), have multiple uses, and are found in both urban settings and major transportation corridors. Vehicles larger than 11,800 kg GVWR almost always run on diesel and are used for long-haul trucking.<sup>574</sup> Quebec law considered vehicles with net mass greater than 3,000 kg to be heavy-duty vehicles (as of 31 December 2010, the definition changed to vehicles with GVWR greater than or equal to 4,500 kg), and they comprise the three categories discussed above (except for the lower range of the first category since 31 December 2010).
280. I/M programs for heavy-duty vehicles (which in practice mostly apply to diesel vehicles) differ from I/M programs for light-duty vehicles. Heavy-duty vehicle I/M programs vary in their test methods and also in the maximum emission levels at which a vehicle passes or fails (the “cutpoints”).<sup>575</sup> Heavy-duty vehicle sizes, horsepower ratings, and axle configurations are quite varied, making it difficult to construct dynamometers capable of accommodating all of them. Dynamometers are nevertheless used to assess the non-smoke component of vehicle emissions.<sup>576</sup>
281. Quebec’s program, which is described at greater length in the next subsection, includes a test on the road or highway, followed by a re-test if necessary at an approved testing facility. The roadside smoke test may be carried out at weigh scales, customs inspection facilities, on the road, or at any other site that does not encumber roadway operations.<sup>579</sup> Tests may be conducted by carrier enforcement officers of the CRQ or by highway or environment ministry staff. Inspections are usually done at random, in the sense that the location where they are being conducted on any given day is not publicized in advance.<sup>580</sup> Vehicles are selected for opacity testing when the inspection team suspects, on the basis of visual observation of the vehicles as they approach the test site, that they are excessive emitters of smoke. An inspector’s or officer’s selections are based on experience and past test data. Such determinations include consideration of the type, make and MY of the vehicle.<sup>581</sup> The roadside test usually applies to all diesel trucks and buses, regardless of their jurisdictional origin. The inspection includes a smoke test.<sup>582</sup> Failure of the roadside test may result in a fine, often waived or reduced if the owner furnishes proof, within a specified period of time (normally 30 to 60 days), that the cause of the failure has been corrected. In some cases, vehicle registration may be withdrawn if the required repairs are not made within the specified time permitted, or if the vehicle is a repeat offender. There is no fee charged to the operator for the random roadside test.<sup>583</sup>

573. 2003 CCME HDV Code of Practice, *supra* note 342 at 3.

574. *Ibid.*

575. *Ibid.* at 26. All heavy-duty vehicle emission tests require a set of test cutpoints or I/M standards. The Code of Practice explains that at present, the only emission I/M test for which cutpoints have been established and generally accepted is the SAE J1667 smoke emission test. These cutpoints should be reviewed regularly and revised as required on a national basis and reflect differences among MY.

576. *Ibid.*

577. Environment Canada, *The State of Heavy-Duty Vehicle Emission Inspection and Maintenance in Canada and the United States: Final Report* (Gatineau: Environment Canada, 2000) [*State of HDV I/M*].

578. 2003 CCME HDV Code of Practice, *supra* note 342 at 21; *State of HDV I/M*, *supra* note 577.

579. *State of HDV I/M*, *supra* note 577.

580. *Ibid.*

581. *Ibid.*

582. *Ibid.*

583. *Ibid.*



282. Ontario with its *Drive Clean* program, and British Columbia with its *AirCare* program, apply periodic I/M for heavy-duty vehicles. This consists of regular (annual or biannual) testing of heavy-duty vehicles at fixed or permanent facilities such as fleet maintenance facilities or centralized inspection sites.<sup>584</sup> In these cases it is common practice to conduct an exhaust gas test before renewing the vehicle registration. If it cannot be demonstrated that the vehicle is not producing a large quantity of

emissions, the registration renewal is refused. Vehicles from the last two to four MY are often exempted from periodic testing, since recent vehicles are unlikely to produce significant emissions.<sup>585</sup> Such vehicles are still subject to random highway testing where such programs exist.

283. Table 11 provides information on the characteristics and workings of the three Canadian I/M programs:

**Table 11: Heavy-duty vehicle inspection programs in British Columbia, Ontario and Quebec**

Jurisdiction	Test	Method & Inspections	Cutpoints	Test Failure
<b>British Columbia <i>AirCare</i> HDDV I/M Program</b>	Roadside test using J1667	Roadside: random and periodic <sup>586</sup>	40/55%	Periodic: BC registered vehicles: May lose registration if not repaired within 30 days
1998 Province-wide Vehicles >5,000 kg	No test fee.	Statistics on Program Vehicle Inspections: 2001: 13,830 2002: 13,503 2005: 13,353 2006: 10,070		Out-of-province vehicles: Notification sent to home jurisdiction.  No repair cost waiver.
<b>Ontario <i>Drive Clean</i> HDV I/M Program</b>	Roadside test using J1667 (diesel) Two speed idle test at certified sites.	Roadside: random and periodic  HDV I/M Inspections & PM <sub>10</sub> Reductions in tonnes ("T"). <sup>587</sup>	40/55%	Periodic: Registration denial. Ownership transfer requires a test pass. Roadside: Fines vary from C\$305 to \$450.
2000 Province-wide Vehicles >4500 kg Latest 3 MY exempt.	No test fee.	2000: 122,718 & 415T 2001: 125,223 & 483T 2002: 136,837 & 193T  Periodic testing by contractors at decentralized sites. Mobile contractors for testing fleets.		Fines may be additive (e.g., C\$305 for roadside test failure plus C\$450 for tampering).  No limit to number of fines per year. No repair cost waiver.
<b>Quebec PIEVAL</b>	Roadside test using J1667 for diesel by CRQ Inspectors (SAAQ).	2006: 600 2007: 690 2008: 741	Phase in: (2006–2008) 45/60%	Fines range C\$300– \$1200 and C\$100– \$400 depending on offence.
2006 Vehicles >3000 kg (since 31 December 2010, vehicles with GVWR > 4,500 kg; since 1 May 2011, also applies to vehicles registered outside Quebec). <sup>588</sup>	No test fee.	Pre-conditioned 2-speed idle test procedure for gasoline by MY.  18 inspection-accredited shops in 2007 (32 in 2009).	(2009) 40/55%	Fines for removal or tampering (C\$750 to \$3000).  Not tied to registration system.  No repair cost waiver.

584. 2003 CCME HDV Code of Practice, *supra* note 342 at 15.

585. State of HDV I/M, *supra* note 577.

586. 2003 Pacific Report, *supra* note 40.

587. G.W. Taylor Consulting, *Drive Clean Program Emissions Benefit Analysis and Reporting: Heavy Duty Vehicles* (2003). These numbers include all heavy-duty vehicles (gasoline and diesel).

588. MDDEP Press Release, *supra* note 289.

## 10.2. Description of PIEVAL

284. Quebec adopted the PIEVAL Regulation in December 2005, making use of the power to make regulations as set out in s. 53 EQA.<sup>589</sup> The regulation came into force on 1 June 2006 (Appendix 11). The PIEVAL Regulation sets maximum emission standards for various pollutants emitted by heavy-duty vehicles, and for required anti-pollution equipment, as well as information on obtaining institutional accreditation; the various sanctions are described.
285. The CCME's *Environmental Code of Practice for On-Road Heavy-Duty Vehicle Emission Inspection and Maintenance Programs* of 2003<sup>590</sup> notes that, of the various I/M program parameters, two of the most important are the program type and the inspection procedures. The two main program options for the latter two parameters are the reduction of visible smoke only, and the reduction of PM and gaseous pollutants as well as visible smoke.<sup>591</sup> According to the Party, Quebec has thus far chosen to implement an on-road inspection program for the reduction of visible smoke, PM and gaseous pollutants, from both diesel and gasoline heavy-duty vehicles.<sup>592</sup> PIEVAL accordingly targets heavy-duty vehicles equipped with either diesel or gasoline engines (although approximately 90% of all heavy-duty vehicles are diesel).<sup>593</sup> PIEVAL sets out different test parameters for these two types of engines.
286. The PIEVAL regulation applies to all heavy-duty vehicles over 3,000 kg (since 31 December 2010, to those with a GVWR of 4,500 kg or more), registered in Quebec (below the 55<sup>th</sup> parallel), or (since 1 May 2011) registered outside the province.<sup>594</sup> The regulation makes anti-pollution devices mandatory for all heavy-duty vehicles, prohibits their modification, and provides for quality standards of any replacement anti-pollution device.<sup>595</sup> Lastly, the regulation provides for the performance of the anti-pollution equipment being tested, to ensure that emissions standards are respected by heavy-duty vehicles throughout Quebec.<sup>596</sup>
287. MDDEP entered into an agreement with SAAQ to enforce the new regulations.<sup>597</sup> The enforcement of regulatory standards relating to the *Highway Safety Code* and other laws in Quebec is carried out on the road by the carrier enforcement officers of CRQ.<sup>598</sup> The enforcement officers intercept and inspect vehicles and the documents and daily logs of drivers to ensure compliance with the law. The officers have the powers of peace officers to enforce the *Highway Safety Code* and several other laws relating to road transport.<sup>599</sup> In Quebec, the officers also have the powers of special constables to enforce the *Act Respecting Motor Vehicle Transport by Extra-provincial Undertakings* (RSC, 1985, c. 29 (3<sup>rd</sup> Suppl.)). Interceptions and inspections may take place at highway inspection stations or anywhere else on the roads.<sup>600</sup> PIEVAL inspections, as

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589. MDDEP PIEVAL, *supra* note 175; PIEVAL Regulation, *supra* note 57. Section 53 of the EQA provides: The Government may make regulations applicable to the whole or to any part of the territory of Québec, to: (a) classify motor vehicles and engines to regulate their use and withdraw certain classes from the application of this Act and the regulations; (b) prohibit or limit the use of certain classes of motor vehicles or engines to prevent or to reduce the emission of pollutants into the air; (c) determine the manner in which certain classes of motor vehicles or engines may be used and the manner of maintaining them, and prescribe, if need be, the installation of purification devices in accordance with the specifications which it determines and provide for the inspection of such devices; [...]."

590. 2003 CCME HDV Code of Practice, *supra* note 342.

591. *Ibid.* at 7.

592. 2009 Supplemental Information, *supra* note 63, at 10. See also PIEVAL Regulation, *supra* note 57, s. 12 and 14.

593. 2003 Minister Memorandum, *supra* note 60 at 1.

594. MDDEP PIEVAL, *supra* note 175. Since the implementation of PIEVAL, Quebec has changed its definition of heavy-duty vehicles. Quebec formerly defined heavy-duty vehicles according to their net mass, while the other provinces use gross vehicle weight rating (GVWR). Following the amendment, Quebec vehicles with a GVWR of 4,500 kg or more, as specified by the manufacturer, are legally considered heavy-duty vehicles and as such are covered by PIEVAL. This new definition is consistent with that applied by all other North American provinces and states. For the application of PIEVAL to vehicles registered outside Quebec, see MDDEP Press Release, *supra* note 289.

595. Section 7 of the PIEVAL Regulation, *supra* note 57, prohibits the removal or modification of a pollution control device.

596. *Ibid.*

597. MDDEP 2007 HDV Emissions Study, *supra* note 65 at 7.

598. "Frequently Asked Questions: Heavy Vehicles", SAAQ, online: SAAQ <[http://www.saaq.gouv.qc.ca/en/faq/heavy\\_vehicles.php](http://www.saaq.gouv.qc.ca/en/faq/heavy_vehicles.php)>.

599. *Ibid.*

600. *Ibid.*

pointed out earlier, are not necessarily conducted in conjunction with safety inspections.

288. CRQ officers are trained to conduct emission inspections on the roadway. The CRQ designates officers in each region for this purpose.<sup>601</sup> If a heavy-duty vehicle is seen emitting significant smoke, the CRQ officer performs an on-site inspection with certified equipment.<sup>602</sup> If the test reveals non-compliance with the standards, the CRQ officer issues an infraction report to the vehicle owner and sends a copy to MDDEP.<sup>603</sup> The vehicle owner is then mailed a statement of offence and a notice from MDDEP. The owner must then repair the vehicle, and undergo an emissions test by an MDDEP-accredited facility within 30 days.<sup>604</sup> The majority of MDDEP-accredited centres are also members of the SAAQ network of mechanical inspection agents, who are the only entities authorized to conduct mandatory periodic safety inspection of all heavy-duty vehicles.<sup>605</sup>

289. The PIEVAL website lists the facilities accredited by MDDEP to perform emission inspections.<sup>606</sup> A formal application process must be followed for accreditation.<sup>607</sup> The accredited test sites have trained mechanics responsible for conducting re-inspections in conformity with an August 2008 inspection protocol.<sup>608</sup> This protocol provides instructions on performing emissions testing, but does not provide guidelines on section 7 of the PIEVAL Regulation, relating to tampering with or modification of emissions equipment or anti-pollution devices.

290. MDDEP-accredited facilities conduct emissions tests on heavy-duty vehicles only when these vehicles are sent to them by CRQ officers via MDDEP.

In other cases, mechanics at those facilities that also belong to the SAAQ network of mechanical inspection agents perform a standard mechanical inspection of the vehicle as part of the mandatory periodic safety inspection procedures listed in the SAAQ's 2002 *Guide for Mechanical Evaluation*.<sup>609</sup> The 2002 guide does not include an examination of emission control equipment to check for tampering or modification. In other words, a heavy-duty vehicle in contravention of section 7 of the PIEVAL Regulation can still pass a safety inspection under the 2002 mechanical guide, since unless it has been sent specifically for an emissions test, it will not fail the safety test even if the emission equipment is found to be substandard, defective, or tampered with. In December 2007, the Association of Mechanical Inspection Agents of Quebec (*Association des mandataires en vérification mécanique du Québec-ASMAVERMEQ*) recommended that the PIEVAL program be integrated with the existing mechanical inspection program in order to ensure that preventive maintenance is performed on the anti-pollution devices of heavy-duty vehicles, with a view to reducing their harmful emissions and helping carriers avoid fines.<sup>610</sup>

291. The test methods for PIEVAL are prescribed in the PIEVAL Regulation (Appendix 11). For diesel-powered vehicles, the "Snap Acceleration Smoke Test Procedure for Heavy-Duty Diesel Powered Vehicles" is used and, for gas-powered vehicles, the "Preconditioned Two-Speed Idle Test Procedure" is used.<sup>611</sup> The regulations provide for maximum emission levels for heavy-duty vehicles.<sup>612</sup> With respect to diesel-powered vehicles, the levels are based on pre-established opacity rates;<sup>613</sup> heavy-duty vehicles powered by gasoline, natural gas or propane gas are measured accord-

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601. 2009 Supplemental Information, *supra* note 63 at 6-7.

602. MDDEP PIEVAL, *supra* note 175.

603. *Ibid.*

604. *Ibid.*

605. "Environnement", *Association des mandataires en vérification mécanique du Québec (ASMAVERMEQ)*, online: ASMAVERMEQ <<http://www.asmavermeq.ca/environnement.asp>> [ASMAVERMEQ website].

606. MDDEP PIEVAL, *supra* note 175.

607. Centre d'expertise en analyse environnementale du Québec (CEAEQ), *Processus et exigences d'accréditation* (Québec: CEAEQ, 2008), online: CEAEQ <[http://www.ceaeg.qc.ca/accreditation/paeaev1/dr12pieval\\_01.pdf](http://www.ceaeg.qc.ca/accreditation/paeaev1/dr12pieval_01.pdf)>.

608. Centre d'expertise en analyse environnementale du Québec (CEAEQ), *Protocole d'analyse des émissions des véhicules lourds* (Québec: CEAEQ, 2008), online: CEAEQ <[http://www.ceaeg.qc.ca/accreditation/paeaev1/dr12pieval\\_02.pdf](http://www.ceaeg.qc.ca/accreditation/paeaev1/dr12pieval_02.pdf)> [CEAEQ Inspection Protocol].

609. SAAQ *Mechanical Inspection Guide 2002*, *supra* note 531.

610. ASMAVERMEQ website, *supra* note 605.

611. 2009 Supplemental Information, *supra* note 63 at 10; PIEVAL Regulation, *supra* note 57, ss. 13, 15.

612. PIEVAL Regulation, *supra* note 57. An amendment on 1 May 2011 to the PIEVAL Regulation led to stricter opacity standards for heavy-duty vehicles; MDDEP Press Release, *supra* note 289.

613. PIEVAL Regulation, *supra* note 57, s. 12.

ing to maximum allowable emissions of HC and CO.<sup>614</sup> Heavy-duty vehicle standards for both engine types are divided into two categories, MY of 1990 or earlier, and MY of 1991 or later, and those applicable to heavy-duty vehicles running on gasoline, natural gas, or propane gas are divided into six categories by MY.

292. The MDDEP website<sup>615</sup> has a link to the PIEVAL website, where statistics and other information on

the program are available to the public.<sup>616</sup> Owners and operators of heavy-duty vehicles obtain their information concerning rules of the road and the operation of their fleet from the SAAQ website<sup>617</sup> and the Ministry of Transport of Quebec website,<sup>618</sup> but these two principal websites do not provide a direct link to MDDEP's website for PIEVAL information.

### 10.3 Quebec's enforcement of PIEVAL since 2006

293. According to MDDEP, PIEVAL was first implemented as a pilot project in the summer of 2006, soon after the adoption of the *Regulation respecting Environmental Standards for Heavy Vehicles*, and it resulted in 600 vehicles being tested.<sup>619</sup> According to the preliminary results of these tests, about 20% of heavy-duty vehicles failed the smoke test. Official inspections of heavy-duty vehicles began in November 2006. As of February 2007, approximately 50 vehicles had been tested.<sup>620</sup> MDDEP data in 2007, however, indicated that the failure rate was 8.2%.<sup>621</sup> MDDEP has authorized a further study to explain this change.

294. The MDDEP study comprised approximately 6,000 heavy-duty vehicles in twelve regions of Quebec. The authors of that study reported that, in 2007, the Quebec fleet of heavy-duty vehicles had improved by 52.2% since the results of previous research in 2005. The authors of the study also suggested several reasons to account for this improvement.<sup>622</sup> First, post-2007 MY heavy-duty vehicles feature significant improvements in anti-pollution

devices.<sup>623</sup> Second, owners and operators of heavy-duty vehicles now have a better understanding of the environment and of how to maintain the mechanical and emissions system in their vehicles, even voluntarily repairing defective or illegally modified emission control devices.<sup>624</sup> The MDDEP study noted that tougher opacity standards under the PIEVAL Regulation, applicable after 1 June 2008, should also contribute to environmental gains.<sup>625</sup> The opacity standards were, in fact, made even more stringent after 1 May 2011.<sup>626</sup> Overall, MDDEP expected these incremental improvements to result in better air quality and reduced adverse health effects of air emissions from heavy-duty vehicles.<sup>627</sup>

295. The Secretariat asked the Party to clarify the measures taken by MDDEP to enforce the regulations on heavy-duty vehicles, with reference to the enforcement measures set out in NAAEC Article 5.<sup>628</sup> In 2009, the Party provided additional information detailing the measures it has taken to enforce PIEVAL for each of the types of measures

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614. *Ibid.*, s. 14.

615. MDDEP website, online: <<http://www.mddep.gouv.qc.ca/air/inter.htm>>.

616. MDDEP PIEVAL, *supra* note 175.

617. SAAQ website, online: <<http://www.saaq.gouv.qc.ca>>.

618. Ministère des Transports du Québec (MTQ) website, online: <<http://www.mtq.gouv.qc.ca/portal/page/portal/accueil>>.

619. *Sierra Report*, *supra* note 169 at 17; email from MDDEP, Centre d'expertise en analyse environnementale du Québec (CEAEQ) (24 January 2007).

620. *Ibid.*

621. MDDEP 2007 HDV Emissions Study, *supra* note 65 at 3.

622. *Ibid.* at 44.

623. *Ibid.*

624. *Ibid.* Vehicle owners had sometimes removed pollution devices in order to improve engine performance.

625. *Ibid.*

626. MDDEP Press Release, *supra* note 289.

627. *Ibid.*

628. 2009 Supplemental Information, *supra* note 63.



listed in NAAEC Article 5(a) to (l) (see Appendix 7).<sup>629</sup>

296. In regard to NAAEC Article 5(a), which provides for measures such as the appointment and training of inspectors, the Party states that MDDEP, in conjunction with the CRQ, provided training to 65 CRQ carrier enforcement officers to conduct roadside inspections.<sup>630</sup> Some 102 trained mechanic inspectors can now undertake re-inspections at centers accredited for this purpose.<sup>631</sup>
297. Concerning NAAEC Article 5(b), describing the monitoring of compliance and the investigation of suspected violations, the Party stated in 2009 that Quebec has 32 facilities accredited by MDDEP for the re-inspection of non-compliant heavy-duty vehicles.<sup>632</sup> In the latter connection, in December 2007, ASMAVERMEQ reported that a shortage of accredited test facilities for heavy-duty vehicles was a serious impediment to implementing PIEVAL.<sup>633</sup> ASMAVERMEQ also noted then that there were no SAAQ-accredited inspection facilities in the regions of Outaouais, Laval, Montérégie, Côte-Nord, Nord-du-Québec, Bois-Francs, Gaspésie, Îles-de-la-Madeleine, Lanaudière, Laurentides, or Estrie, and there were not enough inspection centers in Montreal and Quebec City.<sup>634</sup> At the time, these urban regions had five inspection centers between them.<sup>635</sup> The number of accredited inspection centres has nearly doubled since ASMAVERMEQ raised these concerns.<sup>636</sup> Members of the team responsible for PIEVAL do an initial follow-up with owners who have not proven their compliance within the 30-day grace period after receiving the repair notice sent by the Minister. If upon contact by the PIEVAL team the
- vehicle owner does not submit proof of complying repairs, the file is forwarded to the MDDEP division responsible for investigation.<sup>637</sup>
298. With respect to NAAEC Article 5(d), regarding the public release of non-compliance information, the Party states that MDDEP produces annual reports and provides the public with the main results of the PIEVAL program. According to the Party, a visual characterization study of the fleet completed in 2005 and 2007 noted the changes in the fleet of heavy-duty vehicles in Quebec, and a drop in the rate of non-compliant vehicles by 52%.<sup>638</sup> This study is discussed earlier in this subsection, along with the study's conclusions as to reasons for the improved compliance. The study is published on MDDEP's website.<sup>639</sup>
299. In regard to NAAEC Article 5(e), concerning the issuance of periodic statements on enforcement procedures, the Party explained that when adjustments or changes to the procedure occur they are conveyed to carrier enforcement officers through instruction memos made available internally at CRQ.<sup>640</sup> The Party also pointed to the website of the Quebec Centre for Environmental Analysis and Expertise (*Centre d'expertise en analyse environnementale du Québec*), where updated versions of the testing protocol used by the MDDEP-accredited centers are posted.<sup>641</sup>
300. With respect to NAAEC Article 5(f), regarding the promotion of environmental audits, the Party explains that promotion of vehicle maintenance and preventative inspection is undertaken at special events in the transportation industry. In addition, MDDEP takes part in open houses hosted by

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629. *Ibid.*

630. *Ibid.* at 2.

631. *Ibid.*

632. *Ibid.* The PIEVAL website lists 30: MDDEP PIEVAL, *supra* note 175. See also MDDEP, Centre d'expertise environnementale du Québec (CEAEQ), *Programme d'accréditation des établissements d'analyse des émissions des véhicules lourds; Liste officielle des établissements accrédités* (Québec: CEAEQ, 2011), online: CEAEQ <[http://www.ceaeg.qouv.qc.ca/accreditation/paeaevl/etablissement\\_liste.pdf](http://www.ceaeg.qouv.qc.ca/accreditation/paeaevl/etablissement_liste.pdf)> [CEAEQ Accreditation Program].

633. ASMAVERMEQ website, *supra* note 605.

634. *Ibid.*

635. *Ibid.*

636. In 2007 there were 18 MDDEP-accredited centers; MDDEP PIEVAL, *supra* note 175. In 2009 there were 32; 2009 Supplemental Information, *supra* note 63, at 7. In 2011 there were 30: CEAEQ Accreditation Program, *supra* note 632.

637. *Ibid.*

638. MDDEP 2007 HDV Emissions Study, *supra* note 65 at 3.

639. *Ibid.*

640. 2009 Supplemental Information, *supra* note 63, at 8.

641. CEAEQ Inspection Protocol, *supra* note 608.



the CRQ, where it explains the regulations to visitors.<sup>642</sup>

301. Regarding NAAEC Article 5(g), which addresses record keeping and reporting, the Party states that “MDDEP’s and SAAQ’s annual management report informs the public about the main results of the PIEVAL program. A follow-up of all records of vehicles found to be non-compliant is done internally [...] through the use of a database.”<sup>643</sup>
302. With respect to NAAEC Article 5(h) and the use of mediation and arbitration services, the Party states that negotiations “by mutual agreement are done with some owners by the MDDEP unit in charge of their compliance activities when there is a problem with the 30-day time frame allowed by the minister for vehicle re-inspection.”<sup>644</sup>
303. With respect to NAAEC Article 5(j), covering the initiation, in a timely manner, of judicial, quasi-judicial or administrative proceedings to seek appropriate sanctions or remedies for violations of a Party’s environmental laws, the Party states that “[a]s of December 31, 2008, 662 files from the SAAQ involving violations of section 10 of the Regulation respecting Environmental Standards for Heavy Vehicles were entered into the PIEVAL database[...]”<sup>645</sup> According to the Party’s information, 442 repair notices under section 11 of

the PIEVAL Regulation were sent by MDDEP to owners of this type of vehicle.<sup>646</sup> From the time this regulation was enacted until 1 January 2011, MDDEP opened 918 offence files, which led to 749 convictions.<sup>647</sup> There was no information on reported cases involving section 7 of the PIEVAL Regulation. Eight files were referred to MDDEP’s Centre for Environment Control (*Centre de contrôle environnemental*) for investigation following non-compliance with section 11 of the PIEVAL Regulation.<sup>648</sup> The Secretariat does not have information on these files or the consequences of non-compliance.

304. Finally, as regards the other actions listed in NAAEC Article 5, namely (c) seeking assurances of voluntary compliance and compliance agreements, (i) using licenses, permits or authorizations, (k) providing for search, seizure or detention, and (l) issuing administrative orders, including orders of a preventative, curative or emergency nature, the Party states that these types of enforcement actions are not applicable to PIEVAL.
305. The Party provided PIEVAL program statistics for 2006, 2007, and 2008 and these are summarized in Table 12. The table illustrates inspections conducted by the CRQ as well as follow-up inspections conducted by MDDEP-accredited centres for each year since PIEVAL’s inception:<sup>649</sup>

**Table 12: Implementation of PIEVAL and program results for 2006–2008**

PIEVAL Implementation	2006	2007	2008	Total
Inspections conducted	49 <sup>650</sup>	709	742	2,031
Number of vehicles designated as non-compliant	23	315	342	677
Number of re-inspections conducted following an infraction	20	231	223	474
Number of vehicles retired	2	15	8	25

642. 2009 Supplemental Information, *supra* note 63, at 8.

643. *Ibid.*

644. *Ibid.* at 4.

645. *Ibid.* at 9.

646. *Ibid.*

647. Comments of the Party to the draft factual record (20 May 2011), attachment to this factual record.

648. 2009 Supplemental Information, *supra* note 63, at 9.

649. 2011 Supplemental Information, *supra* note 45; see also 2009 Supplemental Information, *supra* note 63, at 9-10 (with a few differences in the figures).

650. In addition to 600 pilot project inspections during the summer of 2006.

306. According to the Party, the goal of the program in 2005 was to reduce heavy-duty vehicle emissions of PM<sub>2.5</sub> by 450 tonnes (or 6% of 2005 levels)<sup>651</sup> and to reduce total CO<sub>2</sub> emissions by at least 82,000 tonnes (1%) per year.<sup>652</sup> The Minister of the Environment of Quebec anticipated that once the PIEVAL Regulation came into force there would be approximately 6,000 inspections per year, leading to repairs of non-compliant vehicles in 50% of cases annually. The Minister explained that this would result in 3,000 heavy-duty vehicles being repaired each year to Quebec standards.<sup>653</sup> After three years in operation, PIEVAL achieved an average of 693 inspections per year.<sup>654</sup>
307. The new 2004 federal vehicle emission standards discussed in section 8.1 of the factual record (the On-Road Vehicle and Engine Emission Regulations) have introduced more stringent national

emission standards for on-road vehicles and engines, and these apply in the province of Quebec.<sup>655</sup> Thus, diesel and gasoline heavy-duty vehicles manufactured or imported in Quebec after 2004 produce significantly fewer emissions. Nevertheless, even with the gains anticipated from these regulations, the MDDEP 2007 heavy-duty vehicle study underlines the fact that in 2007 close to 60% of the heavy-duty vehicle fleet was at least 5 years old. If not properly maintained, these older vehicles will continue to emit more emissions than new vehicles.<sup>656</sup>

308. In 2003, the Minister of the Environment of Quebec estimated that approximately 130,000 heavy-duty vehicles were registered in Quebec, as shown in Table 13 below, and that approximately 16,500 (about 13%) of those were non-compliant with the PIEVAL Regulation.<sup>657</sup>

**Table 13: Quebec-registered heavy-duty vehicles in 2003 by user type (MDDEP data)<sup>658</sup>**

Vehicle User Type	Number
Trailer, tractor, large-body vehicles	55,000
Special purpose	55,000
School bus	8,000
Private bus	1,000
Transit bus	6,000
Public vans	5,000
Total	130,000

The SAAQ 2007 annual report also provided statistics of on-road vehicles in four categories for the years 2003 to 2007. Table 14 presents the number of

heavy-duty vehicles by user type, according to SAAQ's findings.<sup>659</sup>

651. MDDEP 2006 Annual Report, *supra* note 61. The goal was to reduce the 75% of total PM levels then caused by transportation by 6%, and the 34% of total CO<sub>2</sub> emissions from transportation by 1%. No objectives were set with respect to NO<sub>x</sub> emissions from transportation, which accounted for 64% of the total.

652. *Ibid.* at 6.

653. 2003 Minister Memorandum, *supra* note 60 at 6.

654. *Ibid.*

655. O-RVEER, *supra* note 23.

656. MDDEP 2007 HDV Emissions Study, *supra* note 65 at 3 and 44.

657. 2003 Minister Memorandum, *supra* note 60. It should be recalled that the PIEVAL Regulation, *supra* note 57, establishes emission standards for various pollutants from heavy-duty vehicles as well as requirements applicable to anti-pollution equipment.

658. MDDEP PIEVAL, *supra* note 175.

659. SAAQ, *Données et statistiques 2007* (Québec: SAAQ, 2008), online: SAAQ <<http://www.saaq.gouv.qc.ca/publications/nous/statistiques2007.pdf>>, at 20.

**Table 14: SAAQ-registered heavy-duty vehicles by user type**

Vehicle Type	2003	2004	2005	2006	2007
a. School buses	9,587	9,675	9,812	9,969	10,023
b. Transit buses	7,190	7,212	7,246	7,357	7,454
c. Heavy-duty trucks and tractor trailers	112,069	115,236	117,810	118,268	119,941
d. Special purpose	55,526	58,302	60,009	61,784	64,425
<b>Total</b>	<b>184,372</b>	<b>190,425</b>	<b>194,868</b>	<b>197,978</b>	<b>201,843</b>

309. The MDDEP 2007 study of heavy-duty vehicles found that the number of registered Quebec heavy-duty vehicles was 175,231; 35% higher than in 2003.<sup>660</sup> The overall rate of failure was 8.2% (7.7% excluding the regions not included in 2003), or 14,500 vehicles.<sup>661</sup> Using the SAAQ figure in Table 14 above for the total number of these vehi-

cles in 2007 (201,843 vehicles) and applying the failure rate found in the 2007 MDDEP study, this suggests that approximately 16,500 non-compliant heavy-duty vehicles were operating on Quebec roads in 2007. Table 15 below illustrates the number of vehicles along with the non-compliance rate according to the various estimates.

**Table 15: Average non-compliant heavy-duty vehicles on-road in 2003 and 2007**

2003 (MDDEP)	16,500	13%
2007 (MDDEP)	14,500	8.2%
2007 (SAAQ)	16,500	8.2%

310. Regardless of the method used, these figures indicate that high-emitter heavy-duty vehicles remain on Quebec roads. MDDEP finds that the number of kilometres travelled by heavy-duty vehicles grew by 45% between 1990 and 2005<sup>662</sup> and that heavy-duty diesel vehicle emissions have increased by 95% since 1980.<sup>663</sup> More heavy-duty vehicles are also on the road, with an increase of at least 10% in 2007 compared to 2003 (according to SAAQ data, Table 14). It is notable that emissions test failure rates decreased by 52% from 2005 to 2007.<sup>664</sup> Emission standards have also become stricter over time, thus reducing emissions per vehicle.<sup>665</sup> However, Transport Quebec warns that,

on the whole, “[t]he resulting gains have been largely nullified [...] by the steady increase in the number of vehicles and the distances traveled.”<sup>666</sup> The 2007 MDDEP study similarly put improvements in vehicle technology into perspective, since nearly 60% of the heavy-duty fleet is five years old or more.<sup>667</sup>

311. In addition to the growth in the number of heavy-duty vehicles on the road, the age of the fleet, and the growth in emissions from heavy-duty diesel vehicles, the problem relating to the enforcement of the 2005 PIEVAL Regulation, which prohibits the modification of anti-pollution devices and

660. MDDEP 2007 HDV Emissions Study, *supra* note 65 at 8.

661. *Ibid.* at 13. The regulation in force until 30 April 2011 set opacity for post-1990 heavy-duty vehicles at 40%. The vehicles were scored by opacity test levels as 1 (0–30%), 2 (31–60%), or 3 (61–100%). 85% of all vehicles fell within test level 1. The regions with the higher emission levels 2 and 3 were those located in the Quebec portion of the QWC.

662. *Transportation and Climate Change*, *supra* note 62.

663. *Ibid.*

664. MDDEP 2007 HDV Emissions Study, *supra* note 65 at 3.

665. *Ibid.* at 44.

666. “Exhaust Emissions”, *Ministère des transports du Québec (MTQ)*, online: MTQ <[http://www.mtq.gouv.qc.ca/portal/page/portal/ministere\\_en/ministere/environnement/ changements\\_climatiques/transport\\_changements\\_climatiques/gaz\\_echappement](http://www.mtq.gouv.qc.ca/portal/page/portal/ministere_en/ministere/environnement/ changements_climatiques/transport_changements_climatiques/gaz_echappement)>. Note that this observation related to exhaust emissions from both gasoline and diesel fuel vehicles and from both heavy- and light-duty vehicles.

667. MDDEP 2007 HDV Emissions Study, *supra* note 65 at 3.

equipment, remains worrisome,<sup>668</sup> as does monitoring for offences under the present PIEVAL testing protocol.<sup>669</sup> Moreover, mandatory periodic

mechanical safety inspections of heavy-duty vehicles do not include a check of the emission equipment.

## 11. Closing Note

312. Factual records provide detailed information regarding citizen assertions of failures to effectively enforce environmental laws in North America. The information that forms part of a factual record may assist submitters, the NAAEC Parties, and members of the public interested in the matters addressed in the factual record. The Secretariat draws no conclusions from the facts presented herein.

313. The present factual record is the first to focus on the environmental laws and regulations of a Canadian province since the inception of the NAAEC over fifteen years ago, and as such it posed a particular challenge in terms of information gathering. It should be noted that the Secretariat only received certain relevant information for developing the factual record together with the Party's comments on the draft factual record. Moreover, a great deal of information had to be developed by the Secretariat in order to fulfill the scope of the factual record as instructed by Council Resolution 06-07. That scope was large: a 20-year period of enforcement of a province-wide system of environmental law. The Secretariat was met, however, with earnest and helpful cooperation by the Governments of Canada and Quebec, and is grateful for the valuable information provided in response to the Secretariat's various requests for information.

314. This factual record provides information relevant to the assertions that over a 20-year period Quebec has failed to effectively enforce ss. 19.1 and 51 of its *Environment Quality Act* and ss. 96.1 and 96.2 of its *Regulation respecting the Quality of the Atmosphere* in connection with the emission of hydrocarbons, carbon monoxide, and nitrogen oxides from post-1985 light-duty vehicle models. The Secretariat prepared a factual record presenting the history and context of the development of the laws at issue, as well as the history and context of the adoption of enforcement measures for these laws.

The problem of particulate matter and heavy-duty vehicles is not mentioned in the Submitter's assertions but it is mentioned in the Party's response. In its resolution, the Council included Quebec's enforcement measures for heavy-duty vehicles, thereby extending the scope of this factual record beyond the Submitter's assertions. The factual record thus also covers the heavy-duty vehicle inspection program, PIEVAL, undertaken by Quebec.

315. The Quebec laws at issue arose as legislative amendments in the mid-1980s, a time when the use of unleaded fuel required catalytic converters, and prior to the introduction of OBD emission and exhaust systems for light-duty vehicles. In 1990, the regulatory framework for fuels and their content was amended to take account of scientific developments in terms of understanding of the health effects of emissions, as well as technological improvements in emission control systems; in particular, leaded gas was banned. Since 1990 it has been recognized that tampering with emissions systems is a cause of increased motor vehicle NOx and VOC emissions. 1990 was also the year that saw the adoption of a first Canada-wide air quality management tool, the CCME Smog Management Plan ("SMP"), which related to monitoring of pollution from transportation and set targets for 2005. In 2001, the CCME *Canada-wide Standards for Particulate Matter (PM) and Ozone ("CWS")* set targets for 2010 regarding the concentration of these pollutants in the atmosphere. For several of its initiatives Quebec had followed the SMP, and MDDEP took charge of the implementation of those initiatives from 1990 to 2001.<sup>670</sup> As to the CWS, Quebec agreed to act in harmony with the other provinces and territories for the matters relating to CWS targets.<sup>671</sup>

316. Concerning the enforcement of the laws at issue, the Party has provided information for few cases in which the laws at issue were tested. According

668. *PIEVAL Regulation*, *supra* note 57, s. 7.

669. *CEAEQ Inspection Protocol*, *supra* note 608.

670. *Air Quality in Quebec (1975–1994)*, *supra* note 17 at 2. See also *MDDEP Chronology of events*, *supra* note 17; *Response*, *supra* note 9 at 7.

671. *MDDEP Ozone*, *supra* note 33.

to the information, provided, while penal sanctions were imposed between 1985 and 1996 as well as after 2008, no statements of offence were issued in the period 1998–2008.<sup>672</sup> In addition, voluntary inspection clinics were held during the second of the four phases described in this factual record (1996–2001). Concerning heavy-duty vehicles, which as noted are not the subject of the Submission, Quebec has a clear, publicly stated policy on compliance and enforcement.<sup>673</sup> The Quebec Heavy-duty Vehicle Inspection and Maintenance Program (PIEVAL) implemented in 2006 aims for the reduction of particulate emissions, defining the emission standards with which heavy-duty vehicles must comply, the consequences if a vehicle fails, and the recourse available to vehicle owners. MDDEP has created a website to inform the

public about its compliance and enforcement policy for heavy-duty vehicles.<sup>674</sup> Conversely, there is no publicly stated policy on how Quebec has enforced its light-duty vehicle laws since 1985,<sup>675</sup> as several studies and the MDDEP note.<sup>676</sup> For example, in 2000, the MDDEP Division of Air Quality raised concerns about the lack of effective law enforcement, which led to the consideration – but not the adoption – of other possible measures to enforce the laws at issue, including an I/M program for light-duty vehicles.<sup>677</sup> While an I/M program is not the only way to ensure the effective enforcement of the laws at issue, it is clear that Quebec has invested considerable resources in studying the option of an I/M program for both light-duty and heavy-duty vehicles.<sup>678</sup>

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672. With the exception of the *Tremblay* case in 1998.

673. See also Commission of Environmental Cooperation (CEC), *Factual Record, Pulp and Papers Submission (SEM-02-003)* (Montreal: CEC, 2006), online: <[http://www.cec.org/Storage/72/6649\\_SEM-02-003-FR\\_en.pdf](http://www.cec.org/Storage/72/6649_SEM-02-003-FR_en.pdf)>, at section 6.6.2.3, which discusses a similar situation. The Party had adopted an enforcement and compliance approach for the regulation of effluents from Quebec pulp and paper mills but had not made it publicly available.

674. MDDEP PIEVAL, *supra* note 175. The website answers the following questions: 1) What are the goals of the program? 2) What will be the benefits of the program? 3) What geographical area is covered? 4) Which vehicles are targeted? 5) What is the procedure for detaining and inspecting a heavy-duty vehicle that appears to be emitting excessive emissions? 6) How are vehicle emissions measured? 7) What are the emission standards that must be met? 8) What happens if my vehicle fails a test? 9) What are the causes of excessive emissions? 10) What can I do to ensure that my vehicle is compliant?

675. On 24 July 2008, the Secretariat requested the following additional information from the Party and the Government of Quebec (Appendix 6 of the factual record):

[...] any document attesting the policy and guidelines of the Government of Quebec as regards the enforcement of these provisions and the institution of judicial, quasi-judicial, or administrative proceedings to impose sanctions or obtain appropriate redress for any violation of the aforementioned provisions of the EQA and the RQA.

The Government of Quebec responded to the Secretariat that it had already provided all the documents at its disposal in the response of 1 February 2005 and in the information provided on 27 November 2006.

676. *Ancil Committee Report*, *supra* note 363; *Air 1*, *supra* note 49; *QPACC 2000–2002*, *supra* note 409; *SNC-Lavalin Report*, *supra* note 401; *Air 2*, *supra* note 386. See also MDDEP *Enforcement Memorandum*, *supra* note 46.

677. MDDEP *Enforcement Memorandum*, *supra* note 46.

678. The Party stated in 2005 that MDDEP's Division of Air Quality was created in 2001, has six full-time employees assigned to the development of an I/M program for light-duty and heavy-duty vehicles, and currently manages an annual budget of C \$415,000. It further stated that a budget of C \$2 million was allocated in 2001–2003 for the development of a motor vehicle I/M program; *Response*, *supra* note 9 at 7.



# **APPENDIX 1**

**Council Resolution 06-07, dated 14 June 2006**



14 June 2006

COUNCIL RESOLUTION 06-07

**Instruction to the Secretariat of the Commission for Environmental Cooperation regarding the assertion that Canada, and more specifically the province of Québec, is failing to effectively enforce sections 96.1 and 96.2 of Québec's *Regulation respecting the Quality of the Atmosphere (Règlement sur la qualité de l'atmosphère—RQA)* and sections 19.1, 20 and 51 of the Québec *Environment Quality Act (Loi sur la qualité de l'environnement—LQE)* (SEM-04-007).**

THE COUNCIL,

SUPPORTIVE of the process provided for in Articles 14 and 15 of the North American Agreement on Environmental Cooperation (NAAEC) regarding submissions on enforcement matters and the preparation of factual records,

CONSIDERING the submission filed on 3 November 2004 by the Québec Association Against Air Pollution (Association québécoise de lutte contre la pollution atmosphérique — AQLPA) and the response provided by Canada on 1 February 2005,

HAVING REVIEWED the 5 May 2005 notification submitted to the Council by the Secretariat, recommending the development of a factual record with respect to the submission,

REAFFIRMING that, consistent with the *Guidelines for Submissions on Enforcement Matters under Articles 14 and 15 of the North American Agreement on Environmental Cooperation*, and as stated in the CEC's guidebook "Bringing Facts to Light," a factual record "outlines, in as objective a manner as possible, the history of the issue, the obligations of the Party under the law in question, the actions of the Party in fulfilling those obligations, and the facts relevant to the assertions made in the submission of a failure to enforce environmental laws effectively,"

FURTHER REAFFIRMING that a factual record thus contains neither an assessment of a Party's policy choices made in the exercise of its discretion in respect of investigatory, prosecutorial, regulatory or compliance matters, nor an assessment of a Party's decisions to allocate and prioritize its resources for the enforcement of environmental matters,

CONSIDERING THAT, as such, assessments of the decisions not to implement a vehicle inspection maintenance program for light vehicles during the time period referenced in the submission, and not to establish a firm schedule for the implementation of such a system, are beyond the scope of the factual record process,

NOTING that section 20 of the LQE is not applicable to the facts raised in the submission,

FURTHER NOTING that Canada's response did not indicate that the implementation of a vehicle inspection and maintenance program was a preferred means of enforcing compliance with sections 51 of the LQE and 96.1 and 96.2 of the RQA,

HEREBY UNANIMOUSLY

INSTRUCTS the Secretariat to prepare a factual record in accordance with the above-noted considerations, as well as Article 15 of the NAAEC and the Guidelines, in respect of the following items arising in the context of Submission SEM-04-007 with regard to the alleged failure to effectively enforce sections 96.1 and 96.2 of the RQA and sections 19.1 and 51 of the LQE:

- the history and context of the development of the above-noted environmental laws, up to the time of their enactment; and
- the measures taken by Québec to enforce the above-noted environmental laws (including educational measures, inspection campaigns, and the development of an inspection and maintenance program for heavy vehicles), as well as the history and context of the adoption of those measures,

DIRECTS the Secretariat to provide the Parties with its overall work plan for gathering the relevant facts and the opportunity to comment on that plan, and

FURTHER DIRECTS that the Secretariat may include, in its preparation of a factual record, any relevant facts that existed prior to the entry into force of the NAAEC on 1 January 1994.

APPROVED BY THE COUNCIL:

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Judith E. Ayres  
Government of the United States of America

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José Manuel Bulás Montoro  
Government of the United Mexican States

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David McGovern  
Government of Canada



## **APPENDIX 2**

### **Relevant Provisions of the *Environment Quality Act* and the *Regulation Respecting the Quality of the Atmosphere***



**EQA**    **Matter addressed**  
**section**

**Provision**

**CHAPTER I – PROVISIONS OF GENERAL APPLICATION**

**1**            **Definitions /**  
**Interpretation**

1. In this Act, unless the context indicates a different meaning, the following words and expressions mean or designate: [...]

2) “atmosphere”: the ambient air surrounding the earth, excluding the air within any structure or underground space;

[...]

4) “environment”: the water, atmosphere and soil or a combination of any of them or, generally, the ambient milieu with which living species have dynamic relations;

5) “contaminant”: a solid, liquid or gaseous matter, a microorganism, a sound, a vibration, rays, heat, an odour, a radiation or a combination of any of them likely to alter the quality of the environment in any way;

6) “pollutant”: a contaminant or a mixture of several contaminants present in the environment in a concentration or quantity greater than the permissible level determined by regulation of the Government, or whose presence in the environment is prohibited by regulation of the Government;

7) “pollution”: the condition of the environment when a pollutant is present;

8) “source of contamination”: any activity or condition causing the emission of a contaminant into the environment;

[...]

**DIVISION III.1 – THE RIGHT TO A HEALTHY ENVIRONMENT AND TO THE PROTECTION OF LIVING SPECIES**

**19.1**        **Environmental Rights**

19.1. Every person has a right to a healthy environment and to its protection, and to the protection of the living species inhabiting it, to the extent provided for by this Act and the regulations, orders, approvals and authorizations issued under any section of this Act and, as regards odours resulting from agricultural activities, to the extent prescribed by any standard originating from the exercise of the powers provided for in subparagraph 4 of the second paragraph of section 113 of the *Act respecting land use planning and development* (chapter A-19.1).

**DIVISION VI – DEPOLLUTION OF THE ATMOSPHERE**

**50**            **Prohibition**

50. No one may offer for sale, exhibit for sale or sell an engine or motor vehicle

(a) the operation of which has the effect of emitting pollutants into the atmosphere; or

(b) in respect of which a regulation of the Government requires the installation of an apparatus to reduce or eliminate the emission of contaminants into the atmosphere, unless the engine or motor vehicle is provided with such apparatus.

51	<b>Prohibition</b>	<p>51. No one may use or permit the use of either an engine or a motor vehicle</p> <p style="padding-left: 20px;">(a) the operation of which has the effect of emitting pollutants into the atmosphere; or</p> <p style="padding-left: 20px;">(b) the use of which requires, under a regulation of the Government, the installation of an apparatus to reduce or eliminate the emission of contaminants into the atmosphere, unless the engine or motor vehicle is provided with such apparatus.</p>
52	<b>Offence</b>	<p>52. Every owner of a motor vehicle which is a potential source of contamination of the atmosphere must ensure its maintenance in accordance with the standards provided by regulation of the Government.</p>
53	<b>Regulations</b>	<p>53. The Government may make regulations applicable to the whole or to any part of the territory of Québec, to:</p> <p style="padding-left: 20px;">(a) classify motor vehicles and engines to regulate their use and withdraw certain classes from the application of this Act and the regulations;</p> <p style="padding-left: 20px;">(b) prohibit or limit the use of certain classes of motor vehicles or engines to prevent or to reduce the emission of pollutants into the air;</p> <p style="padding-left: 20px;">(c) determine the manner in which certain classes of motor vehicles or engines may be used and the manner of maintaining them, and prescribe, if need be, the installation of purification devices in accordance with the specifications which it determines and provide for the inspection of such devices;</p> <p style="padding-left: 20px;">(d) regulate the quality of fuels used for domestic heating, industrial purposes or incineration;</p> <p style="padding-left: 20px;">(e) determine the methods of incineration and their conditions of use;</p> <p style="padding-left: 20px;">(f) establish standards and specifications for any motor-fuel and lubricant.</p> <p style="padding-left: 20px;">(g) exempt any category of monitoring station contemplated in the second paragraph of section 47, taking into consideration, among other criteria, the length of time these stations have been in operation or their purpose.</p>

**DIVISION XIII – PENAL PROVISIONS AND OTHER SANCTIONS**  
[...]

109	<b>Offence and penalty</b>	<p>109. Whoever contravenes this Act or a regulation made under it commits an offence and is liable, in all cases where no other penalty is imposed, to a fine of not less than \$300 and not more than \$5 000.</p>
	<b>Failure to pay fees</b>	<p>Whoever, in contravention of the provisions of an order made under subparagraph 3 of the first paragraph of section 31.0.1, fails to pay the fees prescribed is also guilty of an offence and is liable to the penalties provided for in the first paragraph.</p>

**DIVISION I – INTERPRETATION**

1. **Definitions**
1. In this Regulation, unless the context indicates otherwise, the following terms mean:  
[...]
- (33) “light motor vehicle”: any motor vehicle equipped with a 4-stroke engine and whose gross weight as indicated by the manufacturer is not more than 2 700 kilograms.

**DIVISION II – GENERAL PROVISIONS**

2. **Purpose**
2. The purpose of this Regulation is to establish ambient air standards and emission standards for particulate matters, vapours and gases, emission opacity standards as well as control measures for the prevention, elimination or reduction of contaminant discharge from stationary sources.  
[...]

**DIVISION XXX.1 – MOTOR VEHICLE EMISSIONS**

- 96.1 **Sale or Use of Light Motor Vehicles**
- 96.1. Any light motor vehicle of a model subsequent to 1985 offered for sale, on display for sale, sold or used in Québec must be equipped with a device in good working order to reduce the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere.  
This section does not apply to light motor vehicles designed to comply with the emission standards in Regulations under the *Motor Vehicle Safety Act* (Revised Statutes of Canada, 1985, chapter M-10) without being equipped with a device covered by the first paragraph.

- 96.2 **Removal of Anti-pollution Devices**
- 96.2. Removal of anti-pollution devices: No one may remove or modify or allow to be removed or modified any device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, or, in the case of a light motor vehicle equipped with a catalytic converter, modify or allow to be modified the opening of the fuel tank or pour leaded gasoline therein.

- 96.3 **Exceptions**
- 96.3. Sections 96.1 and 96.2 do not apply to motor vehicles adapted to allow the use of propane or natural gas as their sole fuel or to motor vehicles used during a competition held under the sponsorship of an international organization.

**DIVISION XXX.2 – PENALTIES**

[...]

- 96.6 **Penalties**
- 96.6. A natural person who commits an offence against the provisions of section 96.2 is liable to a fine of \$500 to \$1 500 in the case of the first offence, and to a fine of \$1 000 to \$5 000 in the case of any subsequent offence, or, in either case, to imprisonment for not more than one year or to both the imprisonment and the fine.  
A corporation that commits an offence against the provisions of section 96.2 is liable to a fine of \$2 500 to \$50 000 in the case of the first offence, and to a fine of \$10 000 to \$100 000 in the case of any subsequent offence.

## **APPENDIX 3**

**Secretariat's overall plan to develop a Factual Record,  
dated 5 July 2006**

# Secretariat of the Commission for Environmental Cooperation

## Overall Plan to Develop a Factual Record

<b>Submission ID:</b>	SEM-04-007 ( <i>Quebec Automobiles</i> )
<b>Submitter:</b>	Quebec Association Against Air Pollution ( <i>Association québécoise de lutte contre la pollution atmosphérique</i> )
<b>Party:</b>	Canada
<b>Date of this plan:</b>	5 July 2006

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### Background

On 3 November 2004, the Quebec Association Against Air Pollution (*Association québécoise de lutte contre la pollution atmosphérique*—AQLPA) presented the Secretariat of the Commission for Environmental Cooperation (CEC) with a submission under Article 14 of the North American Agreement on Environmental Cooperation (NAAEC). In the submission, along with supporting materials, the AQLPA asserts that Canada, and in particular Québec, is failing to effectively enforce sections 96.1 and 96.2 of Québec's *Regulation respecting the quality of the atmosphere* (*Règlement sur la qualité de l'atmosphère*—RQA), as well as sections 19.1, 20 and 51 of Québec's *Environment Quality Act* (*Loi sur la qualité de l'environnement*—LQE), pertaining to air emissions of hydrocarbons, carbon monoxide and nitrogen oxides from post-1985 light motor vehicle models. Under these provisions, removing or modifying a catalytic converter from a vehicle constitutes an infraction punishable by a fine and/or a prison term.

On 3 December 2004, the Secretariat determined that the submission met the requirements set forth in Article 14(1) of the NAAEC and requested a response from the Party concerned (Canada), in accordance with Article 14(2) of the NAAEC. Canada submitted its response on 1 February 2005. In the response, the Government of Quebec explains that the problem addressed by these "anti-tampering" provisions was largely resolved by the 1990 ban on leaded gasoline, followed by the introduction of electronic fuel injection and computerized engine controllers. Quebec also stresses that it is working on developing a vehicle inspection and maintenance program that will address the socio-economic and technical issues encountered in other jurisdictions with such programs. Quebec asserts that it wishes to first tackle pollution caused by heavy vehicles, having authorized the preparation of draft legislation to this effect. It adds that above and beyond the strict application of the law, the Quebec Environment Ministry has carried out information, awareness-raising and educational activities and has monitored the state of the vehicles on Québec's roads. On 5 May 2005, the Secretariat informed the CEC Council that in light of Canada's response, the submission warranted developing a factual record.

On 14 June 2006, in Council Resolution 06-07, the Council unanimously decided to instruct the Secretariat to develop a factual record, in accordance with Article 15 of the NAAEC and the *Guidelines for Submissions on Enforcement Matters Under Articles 14 and 15 of the NAAEC* (the *Guidelines*) with respect to the following questions raised in submission SEM-04-007 concerning the alleged failure to effectively enforce sections 96.1 and 96.2 of the RQA and sections 19.1 and 51 of the LQE:

- the history and context of the development of the above-noted environmental laws, up to the time of their enactment; and
- the measures taken by Quebec to enforce the above-noted environmental laws (including education programs, inspection campaigns, and the development of a heavy vehicle inspection and maintenance program), as well as the history and context of the adoption of those measures.

The Council directed the Secretariat to provide the Parties with an overall work plan for gathering relevant facts and to provide the Parties with an opportunity to comment on the plan. The Council also directed the Secretariat that



in preparing the factual record, it may include any relevant facts that existed before the entry into force of the NAAEC on 1 January 1994.

Under Article 15(4) of the NAAEC, in developing a factual record, “the Secretariat shall consider any information furnished by a Party and may consider any relevant technical, scientific or other information: (a) that is publicly available; (b) submitted by interested nongovernmental organizations or persons; (c) submitted by the Joint Public Advisory Committee (JPAC); or (d) developed by the Secretariat or by independent experts.”

## Overall Scope of the Fact Finding

To prepare the factual record, the Secretariat will gather and develop factual information relevant to the following matters concerning the alleged failure to effectively enforce sections 96.1 and 96.2 of the RQA and sections 19.1 and 51 of the LQE:

- the history and context of the development of the above-noted environmental laws, up to the time of their enactment; and
- the measures taken by Quebec to enforce the above-noted environmental laws (including education programs, inspection campaigns, and the development of a heavy vehicle inspection and maintenance program), as well as the history and context of the adoption of those measures.

## Overall Plan

The execution of the overall plan, prepared in accordance with Council Resolution 06-07, will not begin before 21 July 2006. All other dates mentioned are best estimates. The overall work plan is as follows:

- Through public notices or direct requests for information, the Secretariat will invite the Submitters; JPAC; community members; the general public; and local, provincial and federal government officials to submit information relevant to the scope of fact-finding outlined above. The Secretariat will explain the scope of the fact finding, providing sufficient information to enable interested nongovernmental organizations or persons or the JPAC to provide relevant information to the Secretariat (section 15.2 of the *Guidelines*). **[July-October 2006]**
- The Secretariat will request information relevant to the factual record from federal, provincial and local government authorities of Canada, as appropriate, and shall consider any information furnished by a Party (Articles 15(4) and 21(1)(a) of the NAAEC). **[July-October 2006]**
- The Secretariat will gather relevant technical, scientific or other information that is publicly available, including from existing databases, public files, information centers, libraries, research centers and academic institutions. **[October through December 2006]**
- The Secretariat, as appropriate, will develop, through independent experts, technical, scientific or other information relevant to the factual record. **[October through December 2006]**
- The Secretariat, as appropriate, will collect relevant technical, scientific or other information for the preparation of the factual record, from interested nongovernmental organizations or persons, the JPAC or independent experts. **[October through December 2006]**
- In accordance with Article 15(4), the Secretariat will prepare the draft factual record based on the information gathered and developed. **[January through March 2007]**
- The Secretariat will submit a draft factual record to Council, and any Party may provide comments on the accuracy of the draft within 45 days thereafter, in accordance with Article 15(5). **[Mid-May 2007]**

- As provided by Article 15(6), the Secretariat will incorporate, as appropriate any such comments in the final factual record and submit it to Council. **[July 2007]**
- The Council may, by a two-thirds vote, make the final factual record publicly available, normally within 60 days following its submission, according to Article 15(7).

### Additional Information

The submission, the Party's response, the Secretariat's determinations, the Council Resolution, and a summary of these are available in the Registry on Citizen Submissions on the CEC home page <[www.cec.org](http://www.cec.org)>, or upon request to the Secretariat at the following address:

Secretariat of the CEC  
Submissions on Enforcement Matters Unit  
393 St-Jacques St. West, Suite 200  
Montreal, QC H2Y 1N9  
Canada

## **APPENDIX 4**

**Request for information from the Secretariat for preparation  
of a factual record, Submission SEM-04-007 (*Quebec Automobiles*)  
dated 1 September 2006**

# Secretariat of the Commission for Environmental Cooperation

## Request for Information for Preparation of a Factual Record Submission SEM-04-007 (*Quebec Automobiles*) September 1, 2006

### Contents

1. The factual record process
2. Quebec Automobiles submission and Council's instructions
3. Request for information
4. Additional background information
5. Where to send information

## 1. The factual record process

The Commission for Environmental Cooperation (CEC) of North America is an international organization created in by Canada, Mexico and the United States in 1994, under the *North American Agreement on Environmental Cooperation* (NAAEC). The CEC operates through three organs: a Council made up of the highest-level environmental official in each member country; a Joint Public Advisory Committee (JPAC) composed of five citizens from each country; and a Secretariat located in Montreal.

Article 14 of NAAEC allows persons or nongovernmental organizations in North America to inform the Secretariat by written submission that any member country (hereinafter, a "Party") is failing to effectively enforce its environmental law. This initiates a process of review of the submission, after which the Council may instruct the Secretariat to prepare a factual record in connection with the submission. A factual record seeks to provide detailed information to allow interested persons to assess whether a Party is effectively enforcing its environmental law with respect to the matter raised in the submission.

Under Articles 15(4) and 21(1)(a) of NAAEC, in developing a factual record, the Secretariat shall consider any information furnished by a Party and may ask a Party to provide information. The Secretariat also may consider any relevant technical, scientific or other information that is publicly available, submitted by JPAC or by interested nongovernmental organizations or persons, or developed by the Secretariat or independent experts.

On 14 June 2006, in Council Resolution 06-07, the Council decided unanimously to instruct the Secretariat to prepare a factual record in connection with submission SEM-04-007 (*Quebec Automobiles*), in accordance with Article 15 of the NAAEC and the *Guidelines for Submissions on Enforcement Matters under Articles 14 and 15 of the NAAEC* (*Guidelines*). The Secretariat is now requesting information relevant to matters to be addressed in the factual record. The following sections provide background on the submission and describe the information requested.

## 2. Quebec Automobiles submission and Council's instructions

On 3 November 2004, the Quebec Association Against Air Pollution (*Association québécoise de lutte contre la pollution atmosphérique*—AQLPA) presented the Secretariat of the CEC with a submission under Article 14 of the NAAEC. In the submission, along with supporting materials, the AQLPA asserts that Canada, and in particular Québec, is failing to effectively enforce sections 96.1 and 96.2 of Québec's Regulation Respecting the Quality of the Atmosphere (*Règlement sur la qualité de l'atmosphère*—RQA), as well as sections 19.1, 20 and 51 of Québec's Environment Quality Act (*Loi sur la qualité de l'environnement*—LQE), pertaining to air emissions of hydrocarbons, carbon monoxide and nitrogen oxides from post-1985 light motor vehicle models. Under these provisions, removing or modifying a catalytic converter from a vehicle constitutes an infraction punishable by a fine and/or a prison term.

On 3 December 2004, the Secretariat determined that the submission met the requirements set forth in Article 14(1) of the NAAEC and requested a response from the Party concerned (Canada), in accordance with Article 14(2) of the NAAEC. Canada submitted its response on 1 February 2005. In the response, the Government of Quebec explains that the problem addressed by these “anti-tampering” provisions was largely resolved by the 1990 ban on leaded gasoline, followed by the introduction of electronic fuel injection and computerized engine controllers. Quebec also stresses that it is working on developing a vehicle inspection and maintenance program that will address the socio-economic and technical issues encountered in other jurisdictions with such programs. Quebec asserts that it wishes to first tackle pollution caused by heavy vehicles, having authorized the preparation of draft legislation to this effect. It adds that above and beyond the strict application of the law, the Quebec Environment Ministry (now the Ministry of Sustainable Development, Environment and Parks) has carried out information, awareness-raising and educational activities and has monitored the state of the vehicles on Quebec’s roads. On 5 May 2005, the Secretariat informed the CEC Council that in light of Canada’s response, the submission warranted developing a factual record.

On 14 June 2006, in Council Resolution 06-07, the Council unanimously decided to instruct the Secretariat to develop a factual record, in accordance with Article 15 of the NAAEC and the *Guidelines*, with respect to the following questions raised in submission SEM-04-007 concerning the alleged failure to effectively enforce sections 96.1 and 96.2 of the RQA and sections 19.1 and 51 of the LQE:

- the history and context of the development of the above-noted environmental laws, up to the time of their enactment; and
- the measures taken by Quebec to enforce the above-noted environmental laws (including education programs, inspection campaigns, and the development of a heavy vehicle inspection and maintenance program), as well as the history and context of the adoption of those measures.

The Council directed the Secretariat to provide the Parties with an overall work plan for gathering relevant facts and to provide the Parties with an opportunity to comment on the plan. The work plan was submitted on 5 July 2006. The Council also directed the Secretariat that in preparing the factual record, it may include any relevant facts that existed before the entry into force of the NAAEC on 1 January 1994.

Under Article 15(4) of the NAAEC, in developing a factual record, “the Secretariat shall consider any information furnished by a Party and may consider any relevant technical, scientific or other information: (a) that is publicly available; (b) submitted by interested nongovernmental organizations or persons; (c) submitted by the Joint Public Advisory Committee (JPAC); or (d) developed by the Secretariat or by independent experts.”

### 3. Request for information

The Secretariat seeks the following:

Any information relative to the history of sections 96.1 and 96.2 of the RQA and sections 19.1 and 51 of the LQE, up to the time of their enactment, and any information related to measures taken by the Quebec government to enforce these laws.

### 4. Additional background information

The submission, Canada’s response, the Secretariat’s determination, the Council Resolution, the overall plan to develop the factual record and other information are available on the Citizen Submissions on Enforcement Matters page of the CEC web site: <<http://www.cec.org/citizen>>. These documents may also be requested from the Secretariat.



## 5. Where to Send Information

Relevant information for the development of the factual record may be sent to the Secretariat **until 30 November 2006**, by e-mail to <info@cec.org> or by regular mail to the following address:

Secretariat of the CEC  
Submissions on Enforcement Matters Unit  
393 St-Jacques St. West  
Suite 200  
Montreal QC H2Y 1N9  
Canada

Please reference SEM-04-007 (*Quebec Automobiles*) in all correspondence.

For any questions, please call Katia Opalka, Legal Officer, Submissions on Enforcement Matters Unit at 514-350-4337 or send her an e-mail at <kopalka@cec.org>.

## **APPENDIX 5**

**Sierra Research, Inc. Report, dated 28 February 2007**

**Report No. SR2007-02-02**

**SEM-04-007 (Quebec Automobiles):  
Data for the Factual Record**

prepared for:

Commission for Environmental Cooperation of North America  
393 St-Jacques St. West, Suite 200  
Montreal, QC H2Y 1N9 Canada

**28 February 2007**

prepared by:

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**SEM-04-007 (Quebec Automobiles):  
Data for the Factual Record**

Table of Contents

	<u>page</u>
1. Introduction.....	
2. Issues Raised by the Submission .....	
3. Information Gathered and Analysis .....	
4. Air Pollution and Emissions Control.....	
a) Emissions .....	
b) Emissions from Light-Duty Vehicles .....	
c) Legislation .....	
d) Regulation .....	
e) Emissions Control Technologies.....	
f) Methods for Estimating Emissions.....	
g) Methods for Enforcing the Law .....	
5. Air Quality in Quebec .....	
a) Ambient Air Quality and Applicable Standards .....	
b) Emissions by Source .....	
6. Experience with I/M Programs .....	
a) Experience in the U.S.....	
b) Experience in Canada.....	
i) British Columbia .....	
ii) Ontario .....	
iii) Quebec.....	
7. Projected Benefits Of Implementing an I/M Program For Light-Duty Gasoline Vehicles In Quebec.....	
a) Introduction .....	
b) Four Different Scenarios.....	
c) Results.....	

## SEM-04-007 (Quebec Automobiles): Data for the Factual Record

### 1. Introduction

As part of the process of developing the Quebec Automobiles factual record, in December 2006, the Commission for Environmental Cooperation (CEC) retained Sierra Research in order to provide expert advice on matters raised by the Quebec Automobiles submission (the “submission”). This report provides background information on vehicle pollution and vehicle pollution control methods, and it contains analysis that relates specifically to Quebec.

### 2. Issues Raised by the Submission

The Submitter, the Quebec Association Against Air Pollution (*Association québécoise de lutte contre la pollution atmosphérique – AQLPA*), maintains that the Quebec government is not enforcing provincial regulatory provisions (ss. 96.1 and 96.2 of Quebec’s *Regulation respecting the quality of the atmosphere – RQA*) that prohibit removing or tampering with pollution control devices on post-1985 light duty vehicle models. AQLPA maintains that Quebec could enforce these provisions through random, roadside inspections, but that a more effective, comprehensive approach would be to implement a universal, mandatory, inspection and maintenance (I/M) program for light duty vehicles, as Quebec has been planning to do since 1990. According to the AQLPA, due to the lack of an effective vehicle inspection program, 16% of on-road vehicles are out of compliance.

The Quebec government acknowledges that it does not yet have an I/M program for light duty vehicles and does not conduct regular roadside inspections to enforce ss. 96.1 and 96.2 of the RQA. Quebec states that those provisions are out of date, since the tampering they were meant to address largely stopped when leaded fuel was banned in 1990. Quebec adds that since newer vehicle models (post-1998) are equipped with on-board diagnostic (OBD) systems (computers) that tell drivers when their catalytic converters are not functioning properly, costly tail-pipe inspection programs are becoming less attractive. Finally, Quebec says that it is dealing with pollution from heavy-duty vehicles first, because they are more polluting than light-duty vehicles.

### 3. Information Gathered and Analysis

Sierra has gathered information regarding (1) the regulation of vehicle emissions in Canada; (2) vehicle I/M programs; and (3) air quality in Quebec. Sierra has calculated the contributions from all air pollution sources to determine the relative contributions of different sources and impacts on air quality in Quebec. Sierra has also evaluated the potential reductions in emissions, were Quebec to introduce a universal I/M program for light-duty vehicles.

In performing these tasks, Sierra has endeavoured to provide factual information from as many sources as possible with complete documentation of the sources when possible. Sierra has reviewed the submission, spoken to the AQLPA, reviewed information from Quebec’s Ministry of Sustainable Development, Environment and Parks (*ministère du Développement durable, de l’Environnement et des Parcs – MDDEP*), and exchanged e-mails with the MDDEP.

Sierra has also gathered information about air quality and the use of vehicle inspections to improve air quality in other jurisdictions in Canada and the U.S. Acknowledged official tools, such as air pollution inventory information from Environment Canada for Quebec, and models such as a Canadian version of the United States Environmental Protection Agency (USEPA) MOBILE model, have been used to evaluate both the inventory of sources of air pollution in Quebec and the potential emissions reduction benefits of conducting a vehicle I/M program in Quebec.

It should be noted that as part of this mandate, Sierra has not gathered information on or conducted analysis of human health or environmental effects associated with vehicle emissions in Quebec.



## 4. Air Pollution and Emissions Control

Air pollution is a common problem in most urbanized areas of the world, causing an estimated two million premature deaths a year worldwide.<sup>1</sup> Air pollution control is achieved through what is commonly referred to as the “air pollution control cycle,” shown in Figure 1.

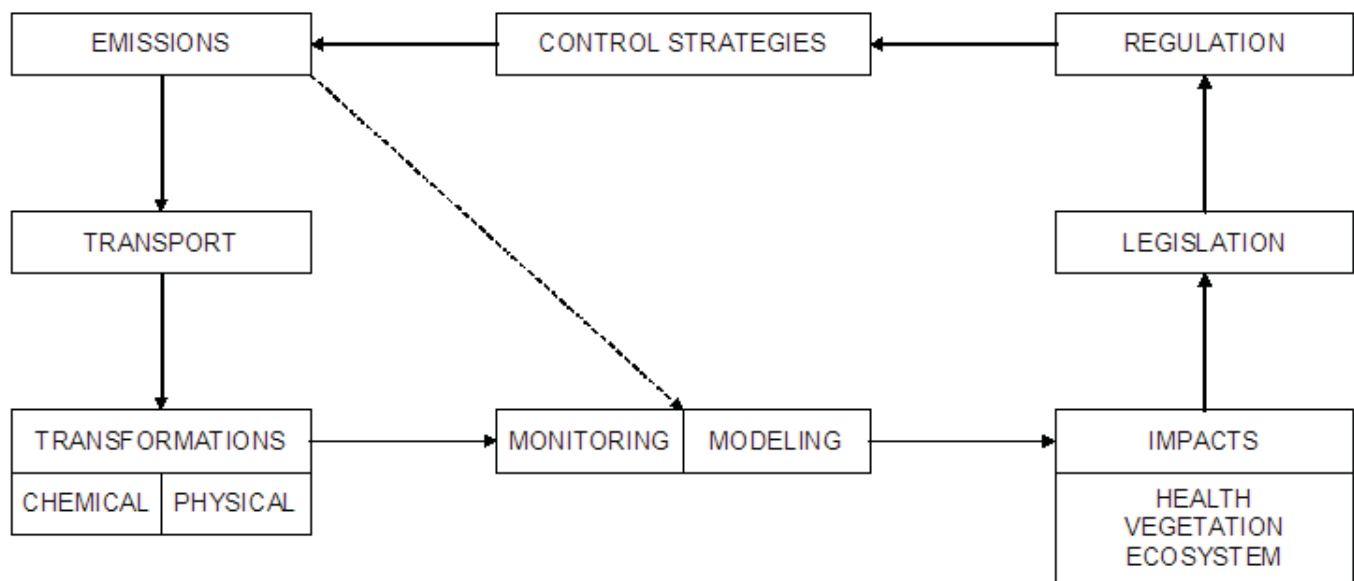
The air pollution control cycle starts with emissions from a wide range of sources, some of them stationary, others mobile, some fairly constant, others varying with the seasons or the time of day, some within the affected jurisdiction, some far beyond the affected jurisdiction (e.g., emissions from a coal-fired power plant in China reaching Quebec).

Some emissions are chemically or physically transformed into other forms as they are transported from the emissions point to receiving or “receptor” areas down wind.

Emissions produce, directly or indirectly, pollutants that can be harmful to the receiving environment.

The first step in addressing impacts of those pollutants involves monitoring or modeling pollutants, that is, measuring or extrapolating the amount, location, and nature of air pollutants.

FIGURE 1. Air Pollution Control Cycle



The next part of the cycle involves developing legislation authorizing the establishment of air quality standards. This is followed by the adoption of regulations and other control strategies to reduce emissions and achieve air quality standards.

### a) Emissions

Both testing of sources (monitoring) and estimating emissions from untested sources (modeling) are used to apportion emissions by source. Once the relative contributions of the various sources are estimated (e.g., 40% from factories and 60% from vehicles), the effectiveness of potential source-specific control measures at reducing overall emissions can be estimated.

1. World Health Organization, “WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide – Global update 2005 – Summary of risk assessment”, online: World Health Organization <[http://www.who.int/phe/health\\_topics/outdoorair\\_aqg/en/index.html](http://www.who.int/phe/health_topics/outdoorair_aqg/en/index.html)> (date accessed: 20 February 2007).

The process of determining the contribution of various emissions sources to air pollution requires understanding the complex relationship between emissions and air quality.

## b) Emissions from Light-Duty Vehicles

In the case of emissions from light-duty motor vehicles, some of the relationships are simple and some are complex. Carbon monoxide (CO) is simple: CO emissions from motor vehicles contribute directly to concentrations of CO in the ambient air. Likewise, hydrocarbon (HC) emissions from cars are toxic at the tailpipe.

In other cases, the relationship between emissions and air quality is more complex. Nitric oxide (NO) is the primary form of oxides of nitrogen (NO<sub>x</sub>) emissions from motor vehicles. In the atmosphere, NO is transformed into nitrogen dioxide (NO<sub>2</sub>), which is more harmful to human health. In addition, NO<sub>x</sub> and HC emissions react with oxygen in the atmosphere to form ozone (O<sub>3</sub>), the principal ingredient of smog.

Although gasoline-fueled motor vehicles emit relatively little particulate matter (PM) (e.g., dust), some of the NO<sub>x</sub> and HC emissions from cars are transformed into particles in the atmosphere (organic aerosols and nitrates), which contribute to total PM concentrations.

The combined effect of direct emissions and atmospheric transformations is that light-duty motor vehicles contribute to air quality problems related to CO, ozone, PM, NO<sub>2</sub>, and toxics.

In the submission, the AQLPA mentions carbon dioxide (CO<sub>2</sub>), another compound emitted from light-duty motor vehicles. CO<sub>2</sub> is a greenhouse gas that has been associated with global warming. However, catalytic converters do not control CO<sub>2</sub> emissions. In fact, a catalytic converter actually increases CO<sub>2</sub> emissions by facilitating the oxidation of HC and CO emissions into CO<sub>2</sub> and water vapour.

## c) Legislation

In Canada, new motor vehicles are required to meet emissions standards set by the federal government. Beginning in 1971, emission standards for new vehicles were promulgated under the *Motor Vehicle Safety Act*,<sup>2</sup> which is administered by Transport Canada. In 2000, the authority for controlling on-road vehicle emissions was transferred from Transport Canada to Environment Canada under the *Canadian Environmental Protection Act, 1999* (CEPA).<sup>3</sup>

The federal government of Canada has harmonized its new-vehicle certification standards with those of the United States. New light-duty gasoline vehicle emission standards are currently so low for some classes of vehicles that the emissions from a vehicle on-road are literally lower than the concentrations of pollutants being taken into the engine from the ambient air. In addition, all new light-duty gasoline-powered vehicles sold in Canada since 1998 are equipped with OBD systems.

In Canada, the provinces regulate cars once they are on the road. Provinces are free to choose their own air pollution control methodologies provided they demonstrate air quality standard compliance using approved air quality models and analysis methods. Under CEPA, the federal government could step in to regulate vehicle pollution in a province, but only if the province's inaction was causing adverse environmental effects in another country.<sup>4</sup>

The *Quebec Environment Quality Act* states:<sup>5</sup>

51. No one may use or permit the use of either an engine or a motor vehicle (a) the operation of which has the effect of emitting pollutants into the atmosphere; or (b) the use of which requires, under a regulation of the Government, the

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2. Online: Transport Canada <<http://www.tc.gc.ca/acts-regulations/GENERAL/M/mvsa/act/mvsa.html>> (date accessed: 20 February 2007).

3. Online: Justice Canada <<http://laws.justice.gc.ca/en/C-15.31/SOR-2003-2/68467.html>> (date accessed: 20 February 2007).

4. CEPA s. 166.

5. R.S.Q., c. Q-2; online: Publications du Québec <[http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/Q\\_2/Q2\\_A.html](http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/Q_2/Q2_A.html)> (date accessed: 20 February 2007).

installation of an apparatus to reduce or eliminate the emission of contaminants into the atmosphere, unless the engine or motor vehicle is provided with such apparatus. (1972, c. 49, s. 51; 1978, c. 64, s. 21.)

#### d) Regulation

Regulations adopted by the federal government under CEPA contain limitations on emissions for new vehicles sold into Canada, heavy-duty vehicles with rebuilt engines, and imported vehicles. They are silent, however, on the issue of in-use compliance (which can be affected by vehicle emissions control system tampering or lack of maintenance). The effectiveness of the standards that apply to new vehicles depends in part on whether pollution control systems are properly maintained once the vehicles are in customer service.

In Quebec, sections 96.1 and 96.2 of the RQA provide:<sup>6</sup>

**96.1. Sale or use of motor vehicles:** Any light motor vehicle of a model subsequent to 1985 offered for sale, on display for sale, sold or used in Québec must be equipped with a device in good working order to reduce the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere. This section does not apply to light motor vehicles designed to comply with the emission standards in Regulations under the Motor Vehicle Safety Act (Revised Statutes of Canada, 1985, chapter M-10) without being equipped with a device covered by the first paragraph. O.C. 240-85, s. 8.

**96.2. Removal of anti-pollution devices:** No one may remove or modify or allow to be removed or modified any device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, or, in the case of a light motor vehicle equipped with a catalytic converter, modify or allow to be modified the opening of the fuel tank or pour leaded gasoline therein. O.C. 240-85, s. 8.

Because catalytic converters lose their effectiveness if they are exposed to lead, the regulations contain two provisions intended to prevent the use of leaded gasoline in vehicles equipped with catalytic converters. Vehicles with catalytic converters were manufactured with a “fill pipe restrictor” inside the fuel tank filler neck, which prevented the larger diameter nozzles from gas pumps that dispensed leaded fuel from being introduced into the tank of the vehicle. Prior to the banning of leaded fuel in Canada in 1990, motorists were tempted to modify the fuel tank restrictor to allow the use of leaded fuel, because it was less expensive than unleaded fuel. For this reason, s. 96.2 specifically prohibits modifying the opening to the fuel tank. Section 96.2 also prohibits pouring leaded gasoline into the fill pipe of a vehicle equipped with a catalytic converter, as this could be done with a funnel without removing the fill pipe restrictor.

#### e) Emissions Control Technologies

HC, CO, and NO<sub>x</sub> emissions from gasoline-fuelled light-duty motor vehicles are controlled through the use of complex control systems that reduce evaporative, crankcase, and exhaust emissions. Although the catalytic converter is the most commonly recognized emissions control device on late model cars, there are many other components to an emissions control system. In order for the catalyst to simultaneously control HC, CO, and NO<sub>x</sub> produced in the engine, the fuel metering system must precisely maintain a stoichiometric air-fuel ratio (with just enough air to burn all of the fuel but with no excess air to inhibit the reduction of NO<sub>x</sub> in the catalyst). Oxygen sensors used in the exhaust system are critical to the achievement of the correct air-fuel ratio. Since the oxygen sensors degrade over time, they must be periodically replaced in order for the catalytic converter to retain peak efficiency. The spark plugs are another emissions-related component that requires periodic maintenance. When a spark plug starts misfiring, HC emissions increase and the catalytic converter can be damaged by excessive heat. An evaporative emissions control system, which includes a charcoal canister, is necessary to minimize the amount of HC vapours evaporating from the fuel system. Although the charcoal canister will last for the life of the vehicle, the rubber or plastic tubing used in the evaporative emissions control system may be broken or improperly routed during routine maintenance. A positive crankcase ventilation (PCV) valve is needed to prevent HC vapours from escaping from the crankcase of the engine. Over time, the valve can become plugged.

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6. R.R.Q., c. Q-2, r. 20.

In addition to the lack of adequate maintenance, excessive emissions can be caused by the removal of emissions control components (e.g., the catalytic converter or charcoal canister), or by the use of modified parts that prevent the emissions control system from functioning properly. The removal or modification of emissions-related parts is commonly referred to as tampering.

For the reasons described above, the effectiveness of emissions control systems in cars that are in customer service depends on whether vehicles are properly maintained. That is why government air pollution control programs routinely include a requirement for the periodic inspection of motor vehicles for emissions-related defects and the repair of vehicles found to be defective.

## f) Methods for Testing Emissions

There are several tests that are used for emission testing, some of them in combination with others. For instance, some locations perform tailpipe emissions tests, visual inspections, and gas cap tests on the same vehicles. The general test types used are summarized below.

- Visual inspection – A visual inspection involves examining the underhood emissions control components and comparing the results of the inspection to a reference guide identifying which components should be present. It also can include looking under the vehicle for the presence of a catalyst can and looking inside the fuel filler neck to check for the presence of a fill pipe restrictor.
- Functional inspection – A functional inspection includes testing certain emissions control components to determine whether they are working properly, such as exercising an exhaust gas recirculation valve.
- Idle emissions test – The idle test measures the concentrations of HC and CO in the exhaust while the engine is running at idle. In some cases, a “high idle” test at 2500 rpm is included.
- ASM (Acceleration Simulation Mode) – The ASM test measures the concentrations of HC, CO, and NO<sub>x</sub> while the vehicle is driven at a constant speed on a dynamometer (a treadmill-like device for vehicles). Because this test is more effective than the idle test in identifying vehicles with excessive emissions, it is often used in areas with more severe air quality problems and is common with decentralized testing programs because the test equipment is relatively inexpensive (approximately \$40,000 US).
- IM240 – The IM240 test measures the mass of HC, CO, and NO<sub>x</sub> produced during a driving cycle created to be representative of normal driving. It is more effective than either the idle test or the ASM test in identifying vehicles with excessive emissions. Because the IM240 test equipment (analyzers and dynamometers) is more expensive to purchase (approximately \$100,000 US), operate, and maintain, it is used only in centralized testing programs.
- OBDII (On-Board Diagnostics II) – All light-duty gasoline-powered vehicles sold in the U.S. since 1996 and in Canada since 1998 include OBDII systems that monitor the emissions control system of the vehicle. These newer vehicles therefore can be tested for emissions by electronically communicating with the vehicle’s OBDII system and requesting the status of the emissions control system. These systems can detect faults that tailpipe test methods cannot, and can find problems sooner since they function continuously (they turn on the “check engine” light if a problem is detected). OBDII test systems are relatively inexpensive (\$1,000-\$3,000 US), easy to use, and simple to maintain.
- Fuel cap testing – Many programs test gasoline vehicle fuel caps to ensure they are sealing properly. If the cap does not seal properly, gasoline vapours (HC) can be emitted from the vehicle. OBDII equipped vehicles built after 2004 are not required to have a fuel cap test because the OBDII system performs this check.
- Snap-idle test – The snap-idle test is a test used on heavy-duty diesel vehicles and measures the opacity of the vehicle’s exhaust when the accelerator pedal is snapped wide open momentarily. Unfortunately, because the test only regulates visual opacity from diesel engines, some repairs (leaning the air / fuel mixture) could actually lead to increased NO<sub>x</sub> emissions.

- Remote sensing – Many programs have considered using remote sensing to test vehicle emissions but limitations inherent in this technology make it unfeasible as a standalone inspection measure. Remote sensing works by shining a light beam across a road, and using the reduction in light to estimate emissions from vehicles. The measurements are highly dependant on vehicle operating mode, and therefore multiple measurements of the same vehicle are required to increase certainty that an individual vehicle has high emissions. The equipment is expensive to purchase and expensive to operate, and the technology is less effective than a dynamometer test or an OBD test in identifying vehicles with emissions-related defects.

## g) Methods for Enforcing the Law

There are two ways to enforce the law:

Random, roadside inspections – In theory, vehicles can be randomly stopped for roadside inspections using portable equipment. The state of California has extensive experience with such inspections. Roadside inspections are impractical along the most heavily traveled roadways. In addition, the cost per vehicle inspected is high, and it is not practical to inspect enough of the fleet to provide a significant deterrent to tampering.

Vehicle I/M programs – There are various types of vehicle inspection program designs that can be used to identify vehicles in customer service with excessive emissions. The combination of program design and choice of test procedure, along with program-specific operational details such as which model years are inspected, impacts the effectiveness of the I/M program.

Vehicle testing programs are generally either centralized or decentralized. In a centralized program, testing is done by a single entity (a government department or a contractor) at facilities constructed generally for the sole purpose of high-volume vehicle emissions testing. No repairs are performed at these facilities. Decentralized testing facilities are more like common garages that perform repairs and also perform emissions testing as a service to their customers.

Because centralized inspection programs usually have relatively few test facilities, and because a vehicle that fails must be taken to another location for repair work, centralized inspection programs are perceived to be less convenient for motorists.<sup>7</sup> However, because of the separation of the inspection and repair functions, centralized programs eliminate the conflict of interest that exists in decentralized programs, where mechanics may be inclined to falsify test results to either avoid disappointing a valued customer or to perform unnecessary repair work for someone else.

The most effective I/M programs use centralized test facilities to conduct annual or biennial dynamometer and OBD testing. In the U.S., many light-duty gasoline vehicle inspection programs are switching to OBD-only testing in a decentralized test environment. The switch is occurring in part because most cars are now equipped with OBD, and older vehicles are driven less than newer vehicles, decreasing their relative impact. In addition, OBD-only tests are economical: the test equipment is relatively inexpensive and the test is quick and easy to perform. In addition, since the test is performed electronically, the vehicle's electronic signature makes cheating more difficult.

Unfortunately, electronic equipment manufacturers have developed devices that allow vehicle owners to remove the catalysts from their vehicles and not have this detected by the car's OBD system. In 2003, the USEPA's Office of Enforcement and Compliance sent information requests to manufacturers of these devices (oxygen sensor simulators). One case went to court in June 2006<sup>8</sup> and has yet to be settled.<sup>9</sup> No further letters have been sent to manufacturers of these devices, and the devices continue to be sold.<sup>10</sup> If the catalytic converter is removed from the vehicle and replaced with an empty shell in the shape of the catalytic converter, and an oxygen sensor simulator is installed in the vehicle, the combination of an OBD test and a visual inspection will not identify that the catalytic converter has been removed. The only testing method for catching this type of fraud is an actual tailpipe emissions measurement of the exhaust.

7. This common perception is not valid for the majority of vehicles that pass the initial test because the time required for an inspection at a centralized facility is usually shorter.

8. *United States v. Caspers Electronics, Inc.*, Case No. 06C3542 before the Eastern Division of the Northern District, U.S. District Court.

9. Personal conversation with Judy Lubow, USEPA (1 February 2007).

10. See online, e.g.: MIL Eliminators Online <<http://www.mileliminatorsonline.com>> and <<http://www.o2sim.com>> (date accessed: 20 February 2007).



In a recent study, vehicles that failed the vehicle inspection program and never showed up for re-inspection (commonly referred to as “disappearing vehicles”) were tracked to see what the outcome was.<sup>11</sup> The author found that 14% of vehicles that initially failed never completed their inspection cycle. Of the disappearing vehicles, 28% of them reappeared as registered to operate in other states in the U.S. and even some in Canada. This indicates that I/M programs do cause non-complying vehicles to leave the area and are therefore a deterrent to tampering in the program area. On the other hand, non-compliant vehicles can and do migrate to locations that do not have operating vehicle inspection programs.

Choice of control measures is governed by technological feasibility, effectiveness (the amount of emissions reductions achievable using a particular control measure), cost-effectiveness (dollars spent per kilogram of emissions reduced), and other factors, such as socioeconomics and environmental justice.<sup>12</sup>

## 5. Air Quality in Quebec

### a) Ambient Air Quality and Applicable Standards

In June 2000, the federal, provincial and territorial ministers of the environment, except Quebec, endorsed Canada-wide standards (CWS) setting ambient concentration limits for fine particulate matter (of 2.5 microns or less, referred to as “PM<sub>2.5</sub>”) and ozone for cities with populations of 100,000 or more persons.<sup>13</sup> The target date for meeting these standards is 2010.

The Canadian Council of Ministers of the Environment (CCME) recently prepared a five-year report on progress in implementing the standards. The report contains national and provincial air quality data for the period 2000 to 2005. It states the following with respect to Quebec:<sup>14</sup>

The Province of Quebec, while not a signatory to the Canada-wide Accord on Environmental Harmonization or Canada-wide Environmental Standards Sub-Agreement, has undertaken analogous efforts on environmental standards as those covered by the agreement, and has also developed working inter-jurisdictional arrangements on issues such as monitoring. Data and text referring to ambient levels and information on PM and ozone for the Province of Quebec has not been included in this report at the request of the province.

MDDEP maintains a website on air quality issues in Quebec. This site touches on specific topics, like air pollution from wood-burning stoves, climate change, and smog, as well as provides up-to-date information on air quality in Quebec. From the MDDEP website, users can access air quality data for monitoring stations around the province. Since the city of Montreal has its own air quality monitoring system, the MDDEP website provides a link to the city of Montreal’s website. Unfortunately, the only province-wide air quality analysis report on MDDEP’s website is over ten years old (Air quality in Quebec, 1975-1994), while more recent reports are limited in scope to Quebec City and Bécancour.

MDDEP describes PM<sub>2.5</sub> and ozone as two of the principal pollutants likely to result in adverse health consequences to the general population. MDDEP also recognizes that NO<sub>x</sub> and HC emissions are key precursors to both ozone and PM<sub>2.5</sub> pollution and that local emissions sources as well as transport of pollutants into the province are responsible for elevated ambient concentrations of these substances. Finally, MDDEP lists the CWS for these two pollutants on the web page discussing ozone and PM<sub>2.5</sub> pollution without mentioning that these standards are not endorsed by the province.<sup>15</sup>

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11. Rich Olin, “Resolution of 7014 Disappeared Vehicles” in National Center for Vehicle Emissions Control and Safety (Colorado State University) 22nd Annual Clean Air Conference (Keystone, CO, 27 September 2006); online: <<http://www.ncvecs.colostate.edu/cac.docs/cac22/RichOlin.pdf>> (date accessed: 20 February 2007).

12. See USEPA, “Environmental Justice” online: USEPA <<http://www.epa.gov/compliance/environmentaljustice/index.html>> (date accessed: 20 February 2007).

13. Specifically, the CWS for PM<sub>2.5</sub> is 30 µg/m<sup>3</sup> over a 24-hour averaging time based on the 98th percentile ambient measurement annually. The CWS for ozone is 65 ppb over an 8-hour averaging time based on the 4th highest measurement annually, averaged over three consecutive years.

14. CCME, “Canada-wide Standards for Particulate Matter and Ozone: Five Year Report: 2000-2005” PN 1374 (November 2006).

15. See “L’ozone et les particules fines : État de la situation au Québec et éléments d’intervention”, online: MDDEP <[http://www.mddep.gouv.qc.ca/air/particules\\_ozone/index.htm](http://www.mddep.gouv.qc.ca/air/particules_ozone/index.htm)> (date accessed: 20 February 2007).

In January 2007, Environment Canada released a five-year progress report on implementation of the CWS in Canada (including Quebec), through calendar year 2005. This report states, “[a]lthough Quebec has not endorsed the CWS, it has committed to act in coherence with other jurisdictions in relation to the CWS.”<sup>16</sup> For Quebec, monitoring data for the metropolitan regions of Gatineau, Montréal, Sherbrooke, Trois-Rivières, Québec City, and the Saguenay are summarized relative to the CWS.

For the PM<sub>2.5</sub> CWS, Figure 1 of the Environment Canada report provides a summary of 98th percentile PM<sub>2.5</sub> concentrations from 65 monitors nationally for the three most recent years (2003 to 2005). Eighteen monitors were in violation of the PM<sub>2.5</sub> CWS of 30 µg/m<sup>3</sup> for this period—2 in British Columbia (out of 19 monitoring stations in the province), 11 in Ontario (out of 15), and 5 in Quebec (out of 11). Two of the violating Quebec monitors have the distinction of recording the highest PM<sub>2.5</sub> concentrations in the country (40 and 38 µg/m<sup>3</sup>). These two are located in Montreal. Indeed, all five of the Quebec monitors in excess of the standard are in Montreal; monitors in the four remaining metropolitan areas were below the CWS for PM<sub>2.5</sub> (there are no PM<sub>2.5</sub> results reported for Gatineau). These results show that, for the 2003 to 2005 period, Montreal recorded the worst PM<sub>2.5</sub> air quality in Canada, while the remaining monitored areas in the province were below the CWS.

For the ozone CWS, Figure 3 of the Environment Canada report provides a summary of 4<sup>th</sup> highest average 8-hour ozone concentrations from 80 monitors nationally for 2003 to 2005. Thirty monitors were in violation of the 8-hour ozone CWS of 65 ppm—28 of which were located in Ontario and Quebec (and 1 each in British Columbia and Nova Scotia), with the highest values generally occurring in Ontario. Seventeen out of 18 Ontario monitors were in violation of the standard, and 11 out of 14 in Quebec. Of the Quebec monitors, the two highest ozone values were recorded in Gatineau and Montréal. The remaining 9 violating monitors are located in Montréal, Sherbrooke and Trois-Rivières. The 3 Quebec monitors beneath the standard for 2003 to 2005 are located in Québec City and Saguenay. Overall, 4 of 6 metropolitan areas in Quebec are above the ozone CWS based on the 2003 to 2005 data.

In terms of trends, Figures 6 and 7 of the Environment Canada report present the annual air quality trends for PM<sub>2.5</sub> and ozone, respectively, where all monitors within a province or territory are averaged together. For PM<sub>2.5</sub>, there is no discernable trend for the 2001 to 2005 period of data shown, and, because of the limited timeframe, Environment Canada did not attempt to evaluate a trend from these data. For many of the provinces and territories, including Quebec, 2003 is the year with the highest PM<sub>2.5</sub> annual average. For Quebec, 2001 was the year with the lowest PM<sub>2.5</sub> annual average. For ozone, a longer period of data exists, enough to complete a trends analysis, and ozone data from 1991 to 2005 were evaluated in the report. For Quebec, no statistical trend, either increasing or decreasing, in annual ozone concentrations was found. Overall, these PM<sub>2.5</sub> and ozone trend data do not indicate a statistical improvement in air quality in Quebec and, therefore, unhealthy PM<sub>2.5</sub> and ozone air quality would be expected for some time into the future.

## b) Emissions by Source, 1990-2015

Environment Canada publishes criteria air contaminant (CAC) emission inventories for every province. The latest CAC inventories for Quebec are available for select calendar years from 1990 to 2015 (Table 1).<sup>17</sup> These estimates show that on-highway vehicles account for a significant amount of total HC and NO<sub>x</sub> emissions. As discussed above, these two pollutants are of importance because they lead to ozone and secondary PM<sub>2.5</sub> pollution. Environment Canada estimates that between 10% and 30% of HC emissions in Quebec as well as between 30% and 47% of NO<sub>x</sub> emissions are from on-highway sources. On-highway sources also emit a significant portion of the CO inventory, but only a minor portion of directly emitted PM<sub>2.5</sub>.

In Table 2, the estimates from Table 1 are separated into light-duty and heavy-duty vehicles. Overall, the light-duty fleet emits most of the on-highway HC and CO (90% or greater) and a significant portion of NO<sub>x</sub> (42% to 74%) and directly emitted PM<sub>2.5</sub> (28% to 35%).

16. Canada, “Government of Canada Five-year Progress Report: Canada-wide Standards for Particulate Matter and Ozone” (Environment Canada, January 2007); online: Clean Air Online <[http://www.ec.gc.ca/cleanair-airpur/caol/pollution\\_issues/cws/toc\\_e.cfm](http://www.ec.gc.ca/cleanair-airpur/caol/pollution_issues/cws/toc_e.cfm)> (date accessed: 20 February 2007).

17. See “Emission Summaries 1990-2015” online: Environment Canada <[http://www.ec.gc.ca/pdb/cac/Emissions1990-2015/emissions\\_1990-2015\\_e.cfm](http://www.ec.gc.ca/pdb/cac/Emissions1990-2015/emissions_1990-2015_e.cfm)> (date accessed: 20 February 2007).

**TABLE 1. Environment Canada Emission Inventory for Quebec**

Pollutant	Calendar year	On-Highway Sources (t/y)	All other sources (t/y)	On-Highway Portion of total (%)
NO <sub>x</sub>	1990	161,265	180,694	47%
	1995	146,451	185,162	44%
	2000	125,409	182,089	41%
	2002	131,518	184,114	42%
	2010	98,742	180,761	35%
	2015	74,206	169,791	30%
HC	1990	129,303	301,383	30%
	1995	99,494	283,906	26%
	2000	79,648	298,656	21%
	2002	72,292	289,294	20%
	2010	43,721	316,386	12%
	2015	34,089	316,216	10%
CO	1990	1,905,663	1,024,567	65%
	1995	1,554,357	1,149,651	57%
	2000	1,280,962	1,126,258	53%
	2002	1,181,097	1,177,410	50%
	2010	827,697	1,296,821	39%
	2015	794,337	1,324,648	37%
PM <sub>2.5</sub>	1990	3,834	86,331	4%
	1995	4,746	70,665	6%
	2000	2,509	78,076	3%
	2002	2,833	93,203	3%
	2010	2,013	89,232	2%
	2015	1,760	91,214	2%

**TABLE 2. Environment Canada Light-Duty and Heavy-Duty Vehicle Emission Inventory for Quebec**

Pollutant	Calendar Year	Light-Duty On-Highway (tonnes/year)	Heavy-Duty On-Highway (tonnes/year)	Light-Duty Portion of Total (%)
NO <sub>x</sub>	1990	119,237	42,028	74%
	1995	88,269	58,182	60%
	2000	69,412	55,997	55%
	2002	62,621	68,897	48%
	2010	40,763	57,979	41%
	2015	31,130	43,076	42%
HC	1990	123,081	6,222	95%
	1995	95,353	4,141	96%
	2000	77,030	2,618	97%
	2002	68,675	3,617	95%
	2010	40,602	3,119	93%
	2015	30,707	3,382	90%
CO	1990	1,839,143	66,520	97%
	1995	1,518,106	36,251	98%
	2000	1,260,570	20,392	98%
	2002	1,152,419	28,678	98%
	2010	806,611	21,086	97%
	2015	774,912	19,425	98%
PM <sub>2.5</sub>	1990	1,084	2,751	28%
	1995	1,295	3,452	27%
	2000	746	1,764	30%
	2002	680	2,154	24%
	2010	548	1,465	27%
	2015	608	1,152	35%

## 6. Experience with I/M Programs

### a) Experience in the U.S.

In the U.S., amendments to the *Clean Air Act*<sup>18</sup> in 1990 led to the USEPA promulgating regulations in November 1992 defining the minimum acceptable specifications for basic and enhanced I/M programs. States with marginal or moderate ozone nonattainment areas, or moderate CO nonattainment areas, were allowed to implement only basic vehicle inspection programs, whereas states with areas within ozone transport regions, or with serious or severe ozone nonattainment areas meeting certain population criteria, were required to implement enhanced vehicle inspection. There were 53 programs in operation in 34 states as of the end of 2005.<sup>19</sup>

18. United States Clean Air Act, as amended in 1990, online: USEPA <[http://www.epa.gov/oar/oaq\\_caa.html](http://www.epa.gov/oar/oaq_caa.html)> (date accessed: 20 February 2007).

19. "United States Motor Vehicle Inspection and Maintenance Programs," Sierra Research Report No. SR2005-12-03, December 2005.

An enhanced I/M program is defined as a program yielding emission reductions equivalent to a centralized I/M program using IM240 and OBDII, and functional testing of the evaporative emissions control system (gas cap pressure test). Enhanced I/M programs also have repair expenditure minimums of at least \$450 US (plus cost of living adjustments) to qualify for a waiver. Over time, USEPA has relaxed its requirements and granted enhanced program credit to decentralized programs using less rigorous dynamometer tests, such as the ASM test instead of the IM240 test, and evaporative system tests limited to testing of the fuel cap only. By accepting the ASM dynamometer test, the economic feasibility of decentralized network designs is greatly increased. Test costs vary widely in the U.S., with emissions test costs ranging from a low of \$10 US to as high as \$75 US.

Support for vehicle inspection programs in the U.S., especially for centralized programs with stringent and complex testing methods such as IM240, varies from state to state. In some areas (i.e., Florida; Louisville, Kentucky), vehicle inspection programs were abolished as soon as attainment of ambient air quality standards could be demonstrated through reliance on other emissions control measures. Some states are moving away from centralized testing of all vehicles to decentralized testing of OBDII (1996 and newer) vehicles only. This is in part because newer technology (more durable), lower emission OBDII-equipped vehicles are a rapidly growing segment of the on-road fleet and in part because of the lower costs, high emissions reductions, and simplified equipment requirements associated with this type of testing. In some areas, such as Portland, Oregon, there is strong support for the maintenance of a centralized I/M program in order to achieve maximum environmental benefits.

To minimize the impact of I/M programs on low-income motorists, most states provide some form of relief from the cost of repairing defective vehicles. The State of California has one of the largest assistance programs and it includes many options. Like most states, California issues waivers for motorists who have spent up to \$450 trying to make repairs, after which the motorist is not required to spend additional funds making repairs. If the vehicle owner's income level is low enough, the motorist can apply for California's Consumer Assistance Program, which provides financial assistance to motorists for vehicle repairs. This is a cost effective way to achieve emissions reductions without allowing the motorist to drive a non-compliant vehicle. California also has a voluntary vehicle scrappage program where motorists are paid to dispose of their vehicle. Vehicle scrappage programs are also a highly cost-effective way to reduce emissions.

Depending on the complexity of the program, the establishment of a centralized vehicle inspection program in the U.S. usually takes approximately 12 to 18 months from the time that the program design has been completed and the program operator selected. IM240 programs take longer to implement, and OBDII-only programs would take less time to implement. If a decentralized model is used, existing light-duty repair shops can be used to perform tests and repairs.

## b) Experience in Canada

In 1990, the CCME, including Quebec, developed a national air pollution reduction plan (the Federal Smog Management Plan).<sup>20</sup> This plan included the use of vehicle I/M programs to reduce air pollution caused by vehicles. In 1992, British Columbia had an I/M program, followed by Ontario in 1999.

### i) British Columbia

In British Columbia, AirCare has been in operation since September 1992 and current contracts for operation extend through 2011.<sup>21</sup> The program was jointly developed by the Ministry of Environment and the Greater Vancouver Regional District (Translink) to improve air quality in the Lower Fraser Valley area. The program uses OBDII, IM240, and ASM testing to test most model years of light- and heavy-duty vehicles annually or biennially (older vehicles receive an annual test) and test facilities are operated by an independent contractor (Envirotest Canada<sup>22</sup>). Tests cost \$23 each per year (vehicle tested annually pay \$46).<sup>23</sup>

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20. See online: Environment Canada <[http://www.ec.gc.ca/press/smog1\\_b\\_e.htm](http://www.ec.gc.ca/press/smog1_b_e.htm)> (date accessed: 20 February 2007).

21. See online: AirCare <<http://www.aircare.ca/index.htm>> (date accessed: 20 February 2007).

22. See online: Envirotest Canada <<http://www.envirotestcanada.ca>> (date accessed: 20 February 2007).

23. An unpublished analysis by Sierra Research completed on January 9, 2006, determined that the program was the most effective in North America, reducing hydrocarbon emissions by 38.7%, carbon monoxide emissions by 36.4%, and oxides of nitrogen emissions by 25.6%.



## ii) Ontario

Ontario's Drive Clean program is operated in the high population density areas along Highway 401<sup>24</sup> by over 2,000 independent test facilities that test both light- and heavy-duty vehicles.<sup>25</sup> The test consists of both an ASM type test and an idle test every two years for light-duty vehicles up to 19 years old. The test, however, does not include OBDII testing, although the use of OBDII testing only for 1998 and newer light-duty vehicles has been proposed. Heavy-duty diesel vehicles receive an annual snap-idle test. Maximum cost for an initial inspection is \$35; retests are limited to \$17.50.

## iii) Quebec

According to Quebec, the implementation of a vehicle inspection program has been under investigation since 1990. Until November 2006, the only vehicle inspections that were taking place were safety inspections for heavy-duty vehicles.<sup>26</sup> MDDEP reports that in the summer of 2006, a heavy-duty vehicle emission testing pilot program selected over 600 vehicles for testing in a non-random way. The reported failure was approximately 28%.<sup>27</sup>

Official emissions testing of heavy-duty vehicles began in November 2006. Only Quebec-registered vehicles are being tested initially. The Ministry indicates that in the spring of 2007, it will consider a proposed change to the regulation that will extend the heavy-duty vehicle emissions testing program to cover all heavy-duty vehicles operated in Quebec, regardless of location of registration (U.S. vehicles operating in Quebec may be tested, failed, and fined).<sup>28</sup> The Ministry estimated that from inception in November 2006 to date, "maybe 50 or less" vehicles have been tested. The Ministry reports that it has accredited eight establishments for heavy-duty diesel vehicle emissions re-testing<sup>29</sup> (initial tests are conducted at roadside, but tests to confirm repairs have been done are conducted by accredited shops).

Tests of light-duty vehicles are not currently being conducted. MDDEP indicated as recently as the end of January 2007 that "[t]here is no LDV [light-duty vehicle] I/M Program nor regulation in Qc [Quebec]. Studies are being conducted but no date of implementation can be put forward at the moment."<sup>28</sup> No planned future date for a light-duty vehicle emissions testing program was provided.

In 1996, Quebec asked AQLPA for advice on implementing an I/M program for light-duty vehicles. In 2001, AQLPA proposed a hybrid program that would be centralized in urban areas and decentralized in rural areas. Test procedures would include both ASM for 1985 to 1995 vehicles and OBDII for newer vehicles, with cars less than four years old exempted from any testing. Testing of fuel caps was not included in the plan.<sup>30</sup>

## 7. Potential Benefits of Implementing an I/M Program for Light-Duty Gasoline Vehicles in Quebec

### a) Introduction

Sierra Research evaluated the potential benefits of a light-duty vehicle I/M program for Quebec, based on the same method used by Environment Canada to estimate the CAC inventories summarized in Tables 1 and 2 in Section 5.

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24. For a map of the program area, see online: Driveclean <<http://www.driveclean.com/who/whowhen.html>> (date accessed: 20 February 2007).

25. See online: Driveclean <<http://www.driveclean.com>> (date accessed: 20 February 2007).

26. See online: Société de l'assurance automobile du Québec <<http://www.saaq.gouv.qc.ca/en/heavy/index.html>> (date accessed: 20 February 2007).

27. Personal e-mail communication with Mireille Blouin, *Centre d'expertise en analyse environnementale du Québec*, MDDEP (24 January 2007).

28. Personal e-mail communication with Jean-Pierre Letourneau, *Head, Vehicle Inspection and Maintenance Program*, MDDEP (30 January 2007).

29. Personal e-mail communication with Mireille Blouin, *Centre d'expertise en analyse environnementale du Québec*, MDDEP (23 January 2007).

30. Conference call with AQLPA (20 December 2006).

The basis for on-highway emissions inventories is the MOBILE6.2C model developed by Environment Canada. In this analysis, the version of the model dated 27 May 2005 was used.<sup>31</sup> Annual inventories are based on the sum of inventories for the 12 individual months within each calendar year. Years 1990, 1995, 2000, 2002, 2010 and 2015 were modeled to match Environment Canada's baseline data.

## b) Four Different Scenarios

Four different scenarios have been considered, two of which included an I/M program for light-duty vehicles that was assumed to begin 1 January 2007. The scenarios are as follows.

1. *Baseline* – The baseline, no I/M scenario is that of Environment Canada, which was summarized in Tables 1 and 2. The baseline does not include any vehicle inspection programs.
2. *Quebec Heavy-Duty Vehicle Inspection* – This scenario assumes implementation of the heavy-duty vehicle inspection program that was introduced in Quebec in 2006. It covers both gasoline and diesel heavy-duty vehicles. For this analysis, it was assumed that diesel vehicles were tested with a smoke opacity test and gasoline vehicles were tested with both modes of the two-speed idle tailpipe test. In the absence of data on program coverage, it was assumed that all heavy-duty vehicles operating in the province would be covered by the program—possibly overestimating the benefits of the program given that only Quebec-registered vehicles are currently subject to inspection.
3. *Quebec Light-Duty Vehicle Inspection* – This scenario was modeled after the I/M program proposed in 2001 by the AQLPA (described in Section 6(b)(iii) above). Test procedures included ASM for 1985 to 1995 model year vehicles and OBDII for 1996-and-newer model year vehicles, with the newest three years exempted from any testing. Testing of fuel caps was not included in the plan.
4. *Arizona Light-Duty Vehicle Inspection* – This scenario was modeled after Arizona's program, which is considered the benchmark program by the USEPA. Test procedures included IM240 for 1981 to 1995 model years, OBD II for 1996 and newer model years, and a gas cap evaporative test. It was also assumed that smoking vehicles would be screened from the program.<sup>32</sup>

The impact of the I/M programs on HC, NO<sub>x</sub>, and CO emissions was determined using the MOBILE6.2C model. MOBILE6.2C does not address the impacts of heavy-duty smoke opacity testing or emissions from light-duty smoking vehicles on directly emitted PM<sub>2.5</sub>. For the impacts on directly emitted PM<sub>2.5</sub>, analyses from California vehicle inspection programs were used.<sup>33,34</sup>

## c) Results

The annual on-highway emission inventory results are presented in Table 3, and benefits of each program are presented in Table 4. Benefits estimated relative to the baseline inventory are reported for 2010 and 2015. Benefits are estimated for ozone precursors (sum of HC and NO<sub>x</sub>) and PM<sub>2.5</sub> and precursors (sum of PM<sub>2.5</sub>, HC and NO<sub>x</sub>).

The results shown in Table 4 indicate that significantly greater emissions reductions are achieved by either of the light-duty I/M programs than by the Quebec heavy-duty program. For PM<sub>2.5</sub> and PM precursors (HC and NO<sub>x</sub>), the Quebec heavy-duty program is estimated to produce benefits on the order of a few hundred tonnes per year. By contrast, the Quebec light-duty program is estimated to reduce emissions by more than 10,000 tonnes per year.

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31. A full copy of the Canadian on-highway inventory modeling method was provided to Sierra Research by Brett Taylor of Environment Canada via e-mail on 14 December 2006.
  32. The Arizona I/M program was modeled as documented in E.H. Pechan & Associates, Inc., "Instructions To State and Local Agencies for Updating the County Level Database from EPA's National Mobile Inventory Model: Technical Memorandum" (November 2004).
  33. The impacts of the heavy-duty smoke opacity test were based on those estimated by the California Air Resources Board: "Public Meeting to Consider Approval of Revisions to the State's On-Road Motor Vehicle Emissions Inventory: Technical Support Document" (May 2000).
  34. The impacts of screening smoking light-duty vehicles were based on those estimated by the California Bureau of Automotive Repair: "Evaluation of the California Enhanced Vehicle Inspection and Maintenance (Smog Check) Program, Technical Support Document" (April 2004).

Although a quantitative estimate of the increased emissions associated with the lack of an I/M program was not provided by AQLPA, the submission states that a non-compliance rate of 16% was observed when a sample of 17,000 volunteers had their vehicles inspected. Because these were volunteers who knew they were going to be tested, it can be assumed that motorists who had tampered with their vehicle's emissions control systems would intentionally avoid the inspection. Because of this avoidance, it can be assumed that the real non-compliance rate is higher. In the California Smog Check Program, the overall failure rate for vehicles that are in a mandatory vehicle inspection program (motorist knows the vehicle will be tested) is 14.7%.<sup>35</sup> California also performs testing on a random selection of vehicles that are pulled out of service at roadside. The failure rate for in-use, light-duty, gasoline-powered vehicles in California was 21.5% when checked in 1999.<sup>36</sup> These results and the 16% non-compliance rate reported by AQLPA are consistent with our modeling results showing that an I/M program would significantly reduce emissions.

**TABLE 3. Quebec Annual On-Highway Emission Inventory (Tonnes/Year) Under Various Vehicle Inspection Programs**

Pollutant	Calendar Year	Baseline (No Program)	Quebec Heavy-Duty Program	Quebec Light-Duty Program	Arizona Light-Duty Program
NOx	1990	161,265	161,265	161,265	161,265
	1995	146,451	146,451	146,451	146,451
	2000	125,409	125,409	125,409	125,409
	2002	131,518	131,518	131,518	131,518
	2010	98,742	98,724	92,062	91,729
	2015	74,206	74,202	65,399	65,363
HC	1990	129,303	129,303	129,303	129,303
	1995	99,494	99,494	99,494	99,494
	2000	79,648	79,648	79,648	79,648
	2002	72,292	72,292	72,292	72,292
	2010	43,721	43,692	37,092	36,572
	2015	34,089	34,073	26,464	26,121
CO	1990	1,905,663	1,905,663	1,905,663	1,905,663
	1995	1,554,357	1,554,357	1,554,357	1,554,357
	2000	1,280,962	1,280,962	1,280,962	1,280,962
	2002	1,181,097	1,181,097	1,181,097	1,181,097
	2010	827,697	826,955	692,070	688,743
	2015	794,337	793,578	640,463	640,105
PM <sub>2.5</sub>	1990	3,834	3,834	3,834	3,834
	1995	4,746	4,746	4,746	4,746
	2000	2,509	2,509	2,509	2,509
	2002	2,833	2,833	2,833	2,833
	2010	2,013	1,852	2,013	1,965
	2015	1,760	1,633	1,760	1,707

35. See online: Smogcheck.ca <[http://www.smogcheck.ca.gov/stdPrint.asp?Body=/ftp/exsum/ES01\\_Q\\_200601200603S\\_AllPA\\_AllStn\\_SW\\_x\\_XXX.htm](http://www.smogcheck.ca.gov/stdPrint.asp?Body=/ftp/exsum/ES01_Q_200601200603S_AllPA_AllStn_SW_x_XXX.htm)> (date accessed: 20 February 2007).

36. See online: Smogcheck.ca <<http://www.smogcheck.ca.gov/StdPage.asp?Body=/geninfo/repairstatsdescr.htm#Inspection%20Phase>> (date accessed: 20 February 2007).

**TABLE 4. Vehicle Inspection Program Emissions Benefits (Tonnes/Year)**

Pollutant	Calendar Year	Quebec Heavy-duty Program	Quebec Light-duty Program	Arizona Light-duty Program
NOx	2010	18	6,680	7,013
	2015	4	8,807	8,843
HC	2010	29	6,629	7,149
	2015	16	7,625	7,968
CO	2010	742	135,627	138,954
	2015	759	153,874	154,232
PM <sub>2.5</sub>	2010	161	0	48
	2015	127	0	53
Ozone Precursors	2010	47	13,310	14,162
	2015	20	16,432	16,810
PM <sub>2.5</sub> and Precursors	2010	208	13,310	14,210
	2015	147	16,432	16,864

## **APPENDIX 6**

**Request for supplemental information from the Secretariat,  
dated 24 July 2008, and response from the Party (Canada/Québec),  
dated 22 September 2008 (“Supplemental Information 2008”)**





24 July 2008

Re: Request for additional information  
SEM-04-007 (*Québec Automobiles*)

In compliance with Article 21 of the *North American Agreement on Environmental Cooperation* (NAAEC), the Secretariat of the Commission for Environmental Cooperation (CEC) requests that you make available certain additional information in order for it to continue development of the factual record for submission SEM-04-07 (*Québec Automobiles*), prepared under Council resolution 06-07 and Article 15 of the NAAEC.

Noting, among others:

- the submission made to the CEC Secretariat by the Québec Association Against Air Pollution (*Association québécoise de lutte contre la pollution atmosphérique*–AQLPA) on 3 November 2004;
- the CEC Secretariat's determination under Articles 14(1) and (2) of the NAAEC;
- the response submitted jointly by the Québec Ministry of the Environment and Environment Canada to the Secretariat on 1 February 2005;
- the Secretariat's notification to Council under Article 15(1) of the NAAEC on 5 May 2005;
- Council resolution 06-07 of 14 June 2006;
- the request for information issued by the CEC Secretariat on 1 September 2006; and
- the additional information submitted by the Québec government on 27 November 2006;

the CEC Secretariat is calling for the submission of additional information pertaining to measures taken by the Québec government to effectively enforce sections 19.1 and 51 of the Environment Quality Act (*Loi sur la qualité de l'environnement*–LQE) and articles 96.1 and 96.2 of the Regulation Respecting the Quality of the Atmosphere (*Règlement sur la qualité de l'atmosphère*–RQA) with respect to automobile air emissions.

More specifically, and without limiting the scope of the above, the Secretariat wishes to obtain the following information from Québec's Ministry of Sustainable Development, Environment and Parks (*ministère du Développement durable, de l'Environnement et des Parcs*–MDDEP) and from any other ministry or government agency involved in enforcing the aforementioned articles:

1. Any document pertaining to the Québec government's legal and administrative interpretation of rules in force under sections 19.1 and 51 of the LQE and articles 96.1 and 96.2 of the RQA related to air emissions from motor vehicles;
2. For each fiscal year from 1985 to 2008:
  - a. the annual budget allocated to enforcing the aforementioned provisions, with a breakdown of funding for technical and regulatory research activities, development of legal and regulatory policies, communications, data collection and statistics, education, and others;

- b. the personnel responsible for their enforcement, with the same breakdown as mentioned in the previous paragraph;
3. With respect to section 3.1.4.3 of the response of 1 February 2005, and given that article 96.1 and a portion of article 96.2 of the RQA apply solely to light vehicles, please explain how the motor vehicle inspection and maintenance program for heavy vehicles may constitute the effective enforcement of these provisions;
4. All enforcement measures of Section 51 of the LQE, including those pertaining to the development and adoption of new enforcement programs for this provision, better adapted to the current reality, aimed at controlling air emissions, given, notably, the abolishment of leaded gasoline sales, the presence of On Board Diagnostics (OBD) systems on all light vehicles sold since 1996, and technological changes in the Québec vehicle fleet;
5. The verification of vehicle compliance with the Act and regulations by way of reading OBD units, and the results thereby obtained, including percentages of light vehicles in the Québec vehicle fleet that do not comply with articles 96.1 and 96.2 of the RQA;
6. Any document referring to the Québec government's policies and guidelines for the enforcement of these provisions and for taking legal, quasi-judicial or administrative action to impose penalties or obtain appropriate damages for any infraction of the aforementioned provisions of the LQE and the RQA;
7. Any additional information concerning the development and implementation of a Québec motor vehicle maintenance and inspection program for light vehicles, including information on:
  - a. any measures taken since 27 November 2006 concerning the development and implementation of a motor vehicle inspection and maintenance program for light vehicles;
  - b. any information and research documents, standards and other information behind the statements in section 3.1.4 of the response of 1 February 2005 concerning the inherent difficulties in structuring and implementing the sort of inspection and maintenance program for light vehicles operating in the rest of Canada and in the U.S.;
  - c. the department and team of the ministry dedicated entirely to the motor vehicle inspection and maintenance program (MVIMP) in charge of updating the work began in 1997 pertaining to the structure of a MVIMP for light vehicles, specifying the number of professionals, administrative staff, and support staff involved, along with the results of this team's research;
  - d. any document, decision statement, order of the day, minutes, correspondence or e-mail pertaining to the date, form and exact nature of the apparent change in policy of the Québec government concerning the implementation of a permanent, mandatory MVIMP for light vehicles, given that the annual management reports for 2003–2004 (p. 32, objective 13) and 2004–2005 (p. 49–50, objective 25), dating respectively from October 2004 and October 2005 and included by the Québec government in the additional information submitted on 27 November 2006, indicated that the implementation of such a program was one of the MDDEP's goals, while this objective is absent from the 2005–2006<sup>1</sup> and 2006–2007<sup>2</sup> reports, dating respectively from October 2006 and October 2007;
8. Any other measures—notably those listed in Article 5(1) of the NAAEC—taken by the Québec government to reduce emissions from light vehicles and to effectively enforce sections 19.1 and 51 of the LQE and articles 96.1 and 96.2 of the RQA, other than those specified in the response and in the additional information of 27 November 2006.

So as not to delay the completion of the factual record for submission SEM-04-007 (*Québec Automobiles*), the Secretariat would like to receive the above information as soon as possible, and before 15 September 2008.

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1. Rapport annuel de gestion 2005-2006. Ministère du Développement durable, de l'Environnement et des Parcs: <[http://www.mddep.gouv.qc.ca/ministere/rapports\\_annuels/rapport\\_2005-2006.pdf](http://www.mddep.gouv.qc.ca/ministere/rapports_annuels/rapport_2005-2006.pdf)>.

I thank you in advance for your attention to this matter.

Sincerely,

*(original signed)*

Interim Director

Submissions on Enforcement Matters Unit

c.c. Assistant Deputy Minister, Environment Canada  
Principal Deputy Assistant Administrator, EPA  
Semarnat  
Policy Advisor, Environment Canada  
Deputy Minister, MDDEP  
Advisor, Office of Intergovernmental Relations and Climate Change, MDDEP  
Executive Director, CEC

**Response from Party (Canada/Quebec),  
dated 22 September 2008**

22 September 2008

Interim Director  
Submissions on Enforcement Matters Unit  
Commission for Environmental Cooperation  
393, Saint-Jacques Street West, Room 200  
Montréal (Québec) H2Y 1N9

This letter is in follow-up to the request for additional information you addressed to Madam Line Beauchamp, Québec Minister of Sustainable Development, Environment and Parks, and to the Honourable John Baird, federal Minister of the Environment, on 24 July 2008 in order to continue development of the factual record for submission SEM-04-07 (*Québec Automobiles*). Please find enclosed the responses to your additional questions.

We wish to point out that Québec completely supports the process set forth under articles 14, 15 and 21 of the North American Agreement on Environmental Cooperation and that the responses herein are in keeping with this support.

If further information is required, we invite you to contact Louise Lapierre of the Intergovernmental Affairs Department of the ministère du Développement durable, de l'Environnement et des Parcs at 418-521-3828, ext. 4105.

Yours sincerely,

Deputy Minister  
Madeleine Paulin

enc.

**Question 1.** Any document pertaining to the Québec government's legal and administrative interpretation of rules in force under sections 19.1 and 51 of the LQE and articles 96.1 and 96.2 of the RQA related to air emissions from motor vehicles.

**Response:**

All information available to us was provided in the response of 1 February 2005 and in the documents provided by the Department of Sustainable Development, Environment and Parks (*ministère du Développement durable, de l'Environnement et des Parcs—MDDEP*) on 27 November 2006 in response to the Secretariat's request for information for the development of a factual record.

Concerning your request for documents pertaining to legal interpretation, the dissemination of legal opinions requested by the Québec government is, under Québec law, protected by professional privilege and therefore confidential. Consequently, no such documents can be distributed.

**Question 2.** For each fiscal year from 1985 to 2008:

a. The annual budget allocated to enforcing the aforementioned provisions, with a breakdown of funding for technical and regulatory research activities, development of legal and regulatory policies, communications, data collection and statistics, education, and others.

**Response:**

In all, between 2001 and 2008, about \$460,200 in operating funds were allocated to technical and regulatory research and to the development of laws and regulations.

In all, between 1997 and 2004, about \$631,300 in operating funds were allocated to data collection and statistics, education, and mobilization of private partners.

Since amounts for monitoring are not allocated under any law or regulation, it is not possible to determine the funds dedicated to the enforcement of provisions under sections 19.1 and 51 of the *Environmental Quality Act* (LQE) and articles 96.1 and 96.2 of the *Regulation respecting the quality of the atmosphere* (RQA).

b. The personnel responsible for their enforcement, with the same breakdown as mentioned in the previous paragraph.

**Response:**

The available information does not allow us to provide the aforementioned breakdowns. The following positions do not include monitoring.

1997–2001:

1.25 position per year

2001–2003:

4.5 positions per year

2003–2008:

2.5 positions per year

**Question 3.** With respect to section 3.1.4.3 of the response of 1 February 2005, and given that article 96.1 and a portion of article 96.2 of the RQA apply solely to light vehicles, please explain how the motor vehicle inspection and maintenance program for heavy vehicles may constitute the effective enforcement of these provisions

**Response:**

It is true that a Heavy-duty Vehicle Inspection and Maintenance Program (*Programme d'inspection et d'entretien des véhicules automobiles lourds—PIEVAL*) does not constitute an enforcement of articles 96.1 and 96.2 of the RQA. However, as mentioned in the response of 1 February 2005, the government

made the decision to transfer its priority and actions toward efforts to limit emissions from heavy vehicles and hopes to target light vehicles in a subsequent phase.

**Question 4.** All enforcement measures of Section 51 of the LQE, including those pertaining to the development and adoption of new enforcement programs for this provision, better adapted to the current reality, aimed at controlling air emissions, given, notably, the abolishment of leaded gasoline sales, the presence of On Board Diagnostics (OBD) systems on all light vehicles sold since 1996, and technological changes in the Québec vehicle fleet.

**Response:**

Section 51 of the *Environment Quality Act (Loi sur la qualité de l'environnement—LQE)* does not apply solely to light vehicles. Enforcement efforts under this section include the adoption of the Regulation respecting environmental standards for heavy vehicles by the Government of Quebec in 2005. ([http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q\\_2/Q2R15\\_3.htm](http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q_2/Q2R15_3.htm)), along with the adoption of the Petroleum Products Regulation by the Government of Quebec in 2007 ([http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/P\\_29\\_1/P29\\_1R1.HTM](http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/P_29_1/P29_1R1.HTM)).

Technological research was carried out to acquire knowledge for an inspection and maintenance program for light vehicles adapted to current realities.

**Question 5.** The verification of vehicle compliance with the Act and regulations by way of reading OBD units, and the results thereby obtained, including percentages of light vehicles in the Québec vehicle fleet that do not comply with articles 96.1 and 96.2 of the RQA.

**Response:**

No such study was carried out; these results are therefore not available.

**Question 6.** Any document referring to the Québec government's policies and guidelines for the enforcement of these provisions and for taking legal, quasi-judicial or administrative action to impose penalties or obtain appropriate damages for any infraction of the aforementioned provisions of the LQE and the RQA.

**Response:**

All available documents pertaining to this matter were provided in the response issued to the Secretariat of the North American Commission for Environmental Cooperation by the Québec government's environment ministry and by Environment Canada on 1 February 2005, as well as among the documents provided by the MDDEP on 27 November 2006 in its response to the Secretariat's request for additional information for the development of a factual record.

**Question 7.** Any additional information concerning the development and implementation of a Québec motor vehicle maintenance and inspection program for light vehicles, including information on:

a. Any measures taken since 27 November 2006 concerning the development and implementation of a motor vehicle inspection and maintenance program for light vehicles.

**Response:**

Discussions have been initiated between Recyc-Québec's Issue Table on the Environment and Road Vehicles (*Table de concertation sur l'environnement et les véhicules routiers—TCEVR*), the Québec Association Against Air Pollution (*Association québécoise de lutte contre la pollution atmosphérique—AQLPA*), the Québec Energy Efficiency Agency (*Agence de l'efficacité énergétique du Québec—AEÉ*), the Québec Auto Insurance Corporation (*Société de l'assurance automobile du Québec—SAAQ*) and the MDDEP on the topic of developing a program for light vehicles based on a proposal from the TCEVR (<http://www.ccaq.com/fr/environnement/lengagement-de-laccaq.programme-dinspection-des-vehicu.php>), which is different from the pilot project "Un Air d'avenir" submitted in 2001 (see documents included in the AQLPA submission SEM-04-007).



To date, there have been three meetings (location, participants):

- 3 March 2008, Montréal: Presentation of project to MDDEP officials by members of the TCEVR.
  - Deputy chief of staff of the MDDEP
  - MVIMP team leader
  - TCEVR representatives
- 25 March 2008, Québec City: MDDEP officials wished to know the AQLPA's position on a possible inspection program different from the pilot project "Un Air d'avenir."
  - Deputy chief of staff of the MDDEP
  - Director of the air policies directorate
  - MVIMP team leader
  - AQLPA representatives
- 4 July 2008, Montréal: Presentation of the Issue Table's project to the AQLPA
  - TCEVR representatives
  - AQLPA representatives

These were working meetings for which no minutes were taken. Discussions will continue in the fall of 2008.

- b. Any information and research documents, standards and other information behind the statements in section 3.1.4 of the response of 1 February 2005 concerning the inherent difficulties in structuring and implementing the sort of inspection and maintenance program for light vehicles operating in the rest of Canada and in the U.S.**

**Response:**

The full reference of the study mentioned in section 3.1.4 of the response of 1 February 2005 is as follows:

Slott, R., A. Pollack, V. McConnell, D. Lawson, H. Haskew, R. Harley, D. Gordon, G. Gallagher, H. Ellis, M. Barth, D. Allen, R. Cicerone, *Evaluating Vehicle Emissions Inspection and Maintenance Programs*. Washington DC: National Academy of Science Press, 2001.  
[http://www.nap.edu/catalog.php?record\\_id=10133](http://www.nap.edu/catalog.php?record_id=10133)

There were also various studies by the US Environmental Protection Agency (EPA):  
<http://www.epa.gov/oms/epg/progeval.htm>

- c. The department and team of the ministry dedicated entirely to the motor vehicle inspection and maintenance program (MVIMP) in charge of updating the work began in 1997 pertaining to the structure of a MVIMP for light vehicles, mentioned in the response of 1 February 2005, specifying the number of professionals, administrative staff, and support staff involved, along with the results of this team's research.**

**Response:**

The resources of the team dedicated to the motor vehicle inspection and maintenance program (MVIMP), to technological research and to discussions concerning an MVIMP for light vehicles are:

- one engineer: 1 FTE;
- one professional: 1 FTE;
- one secretary: 0.5 FTE.

- d. Any document, decision statement, order of the day, minutes, correspondence or e-mail pertaining to the date, form and exact nature of the apparent change in policy of the Québec government concerning the implementation of a permanent, mandatory MVIMP for light vehicles, given that the annual management reports for 2003–2004 (p. 32, objective 13) and 2004–2005 (p. 49–50, objective 25), dating respectively from October 2004 and October 2005 and included by the Québec government in the additional information submitted on 27 November 2006, indicated that the implementation of such a program was one of the**

MDDEP's goals, while this objective is absent from the 2005–2006 and 2006–2007 reports, dating respectively from October 2006 and October 2007.

**Response:**

There are no such documents.

**Question 8.**

Any other measures—notably those listed in Article 5(1) of the NAAEC—taken by the Québec government to reduce emissions from light vehicles and to effectively enforce sections 19.1 and 51 of the LQE and articles 96.1 and 96.2 of the RQA, other than those specified in the response and in the additional information of 27 November 2006.

**Response:**

The Québec government has taken a number of measures in a number of sectors to reduce emissions from light vehicles.

**Light vehicle emissions standards:**

Advance publication, on 3 January 2008 of the draft Regulation respecting greenhouse gas emissions from automobiles (*Règlement sur les émissions de gaz à effet de serre des véhicules automobiles*), which would adopt standards similar to those in force in the State of California. There has been a public consultation and the papers submitted are being studied.

**Press Release (in French):**

<http://www.mddep.gouv.qc.ca/infuseur/communiqué.asp?No=1243>

**Draft regulation (in French):**

[http://www.mddep.gouv.qc.ca/changements/plan\\_action/projet-reglement/ges.pdf](http://www.mddep.gouv.qc.ca/changements/plan_action/projet-reglement/ges.pdf)

**Comprehensive plan for energy efficiency and new technology**

On 31 July 2008, the AEÉ submitted a comprehensive plan for energy efficiency and new technologies to the Régie de l'énergie. The plan's energy efficiency and savings targets are ambitious: 3,610,000 tons oil equivalent (TOE) by 2015. The plan includes, among other things, measures in the personal transportation sector (light vehicles).

- Develop an incentive program for the purchase of new low-emissions vehicles.
- Develop training measures in energy saving driving behaviours for drivers of light vehicles.
- Develop an incentive program for the maintenance and repair of existing vehicles.
- Develop a bio-fuel incentive program.

**Press release (in French):**

<http://www.aee.gouv.qc.ca/pdf/presse/communiqué-plan-ensemble.pdf>

**Comprehensive plan (in French):**

<http://www.aee.gouv.qc.ca/pdf/consultation/Plan-ensemble2007-2010.pdf>

**Three-year targets 2007–2010 (in French):**

<http://www.aee.gouv.qc.ca/pdf/publications/cibles-triennales.pdf>

**Environmental qualification for halocarbons**

Since 1 June 2008, any worker who uses halocarbons or whose trade involves working with halocarbon-containing devices must hold an environmental qualification certificate for halocarbons.

This mandatory environmental qualification, which allows workers to purchase halocarbons and to install, maintain, modify, dismantle or repair devices designed or converted to work with halocarbons, is required by the MDDEP. It is part of Québec's management strategy for ozone-depleting substances and their replacements, the entire text of which was published in June 2000.

This regulation is highly relevant to the automobile industry, especially with regard to the maintenance of air conditioning systems and recycling of automobile parts.

**Program description:**

[http://www.mddep.gouv.qc.ca/air/halocarbures/index\\_en.htm](http://www.mddep.gouv.qc.ca/air/halocarbures/index_en.htm)

**Support for the purchase of more environmentally friendly vehicles (and penalties for high-consumption vehicles)**

Partial reimbursement of the Québec Sales Tax (QST) when purchasing or long-term leasing (at least 12 months) or importing to Québec an approved new hybrid vehicle.

[http://www.revenu.gouv.qc.ca/fr/particulier/taxes/remboursement/remb\\_part\\_tvq\\_vehicule\\_hybride.asp](http://www.revenu.gouv.qc.ca/fr/particulier/taxes/remboursement/remb_part_tvq_vehicule_hybride.asp) [Link no longer valid]

Additional vehicle registration fees for vehicles with a displacement of 4 litres or more, if the model year is more recent than 1995.

[http://www.saaq.gouv.qc.ca/en/vehicle\\_registration/cylindersize.php](http://www.saaq.gouv.qc.ca/en/vehicle_registration/cylindersize.php)

**Limits on idling:**

The "Coupez le moteur!" program encourages Québec municipalities to adopt regulations to limit idling in their jurisdictions.

**Program description (in French):**

<http://www.mddep.gouv.qc.ca/programmes/coupez-le-moteur/index.htm>

Information and awareness-raising campaigns already carried out by Québec municipalities (some of which have adopted regulations in this matter):

<http://www.mddep.gouv.qc.ca/programmes/coupez-le-moteur/campagnes.htm> [in French]

Raising awareness among young people about engine idling on the MDDEP's young people's page:

[http://www.mddep.gouv.qc.ca/jeunesse/sais\\_tu\\_que/2005/0501-ralenti.htm](http://www.mddep.gouv.qc.ca/jeunesse/sais_tu_que/2005/0501-ralenti.htm) [in French]

Financial support for the education project "En un tour de clé!":

[http://www.cre-capitale.org/pdf/tourcle\\_guide.pdf](http://www.cre-capitale.org/pdf/tourcle_guide.pdf) [in French]

**Other awareness-raising measures aimed at improved energy efficiency for light vehicles:**

Practical advice for drivers such as those developed and compiled by the Québec AEÉ.

<http://www.aee.gouv.qc.ca/transports/conseils/conseils.jsp> [inactive link]

Practical advice for drivers such as those developed and compiled by the Québec ministry of transportation (*Ministère du Transport du Québec-MTQ*).

[http://www.mtq.gouv.qc.ca/portal/page/portal/ministere\\_en/ministere/environnement/changes\\_climatiques/mobilite\\_durable/conduire\\_polluant\\_moins](http://www.mtq.gouv.qc.ca/portal/page/portal/ministere_en/ministere/environnement/changes_climatiques/mobilite_durable/conduire_polluant_moins)

The employer program, also called the business transport plan, which includes a range of measures that employers can put into place to facilitate their employees' travel between the home and the workplace.

[http://www.mtq.gouv.qc.ca/portal/page/portal/grand\\_public/vehicules\\_promenade/deplacement\\_domicile\\_travail](http://www.mtq.gouv.qc.ca/portal/page/portal/grand_public/vehicules_promenade/deplacement_domicile_travail) [in French]

The MTQ has made a database available to the public that facilitates car pooling.

<http://www1.mtq.gouv.qc.ca/fr/covoiturage/index.asp> [in French]

### **Promotion of electric vehicles**

Pilot project on the use of environmentally friendly electrically powered low speed vehicles (LSV), with a maximum speed of 40 km/h.

#### **Press release:**

<http://communiqués.gouv.qc.ca/gouvqc/communiqués/GPQF/Juin2008/17/c4768.html>  
[in French]

#### **Program description:**

[http://www.mtq.gouv.qc.ca/portal/page/portal/Librairie/Publications/fr/salle\\_presse/20080617\\_veh\\_basse\\_vites/projet\\_pilote\\_vbv.pdf](http://www.mtq.gouv.qc.ca/portal/page/portal/Librairie/Publications/fr/salle_presse/20080617_veh_basse_vites/projet_pilote_vbv.pdf) [in French]

Support for the development of electric vehicles through the promotion of research and development in this area.

<http://www.mddep.gouv.qc.ca/changements/vehicule/index-en.htm>



## **APPENDIX 7**

**Request for supplemental information from the Secretariat,  
dated 19 December 2008, and response from the Party (Canada/Quebec),  
dated 12 May 2009 (“2009 Supplemental Information”)**





19 December 2008

**Re: Supplementary information request  
SEM-04-007 (Quebec Automobiles)**

In accordance with Article 21 of the *North American Agreement on Environmental Cooperation* (NAAEC), the Secretariat of the Commission for Environmental Cooperation (CEC) requests that you make available certain additional information in order for it to continue development of the draft Factual Record for submission SEM-04-07 (*Quebec Automobiles*), prepared pursuant to Council Resolution 06-07 and Article 15 of the NAAEC. Although the Secretariat has gathered and researched the information set out in the Resolution, it is our view that for the matters below, the most authoritative sources are likely to be the Governments of Quebec and Canada themselves.

In making this request, we wish to recall:

- the submission made to the Secretariat by the Quebec Association Against Air Pollution – *Association québécoise de lutte contre la pollution atmosphérique* (“AQLPA”) on 3 November 2004;
- the Secretariat’s Determination dated 3 December 2004 under Articles 14(1) and (2) of the NAAEC;
- the Response submitted jointly by the Quebec Ministry of the Environment and Environment Canada to the Secretariat of 1 February 2005;
- the Secretariat’s 5 May 2005 Notification under Article 15(1) of the NAAEC to Council;
- Council Resolution 06-07 of 14 June 2006;
- the Request for Information issued by the CEC Secretariat on 1 September 2006;
- the Additional Information submitted by the Quebec Government on 27 November 2006;
- the Request for Additional Information sent by the CEC Secretariat on 24 July 2008; and,
- the Additional Information submitted by the Quebec Government on 22 September 2008.

In this connection, the CEC Secretariat requested additional information pertaining to measures taken by the Quebec Government to effectively enforce sections 19.1 and 51 of the *Environment Quality Act – Loi sur la qualité de l’environnement* (“LQE”) and articles 96.1 and 96.2 of the *Regulation Respecting the Quality of the Atmosphere – Règlement sur la qualité de l’atmosphère* (“RQA”) with respect to automobile air emissions.

Supplemental information is now being requested in accordance with Council Resolution 06-07 instructing the Secretariat that the Factual Record must include “the history and context of the development of the above-noted environmental laws, up to the time of their enactment” and in light of the Submitter’s recent communication entitled *Précisions*, dated 29 October 2008 and enclosed as Annex 1. Regarding the latter, the SEM Unit takes the view that it must make every effort to ensure due process, efficiency, and fairness at all steps of the Articles 14 and 15 process. In this connection, it is considered appropriate for the Governments to be given an opportunity to respond to this 29 October 2008 Submitter communication.

Specifically, the Secretariat wishes to obtain the following information from Quebec's Ministry of Sustainable Development, Environment and Parks – *Ministère du Développement durable, de l'Environnement et des Parcs* ("MDDEP") and from any other Ministry or Government agency which may be relevant to providing such information:

1. With reference to NAAEC Article 45(2)(c) and to the first series of attachments of Additional Information submitted by the Quebec Government on 27 November 2006, please provide a brief description of the history and context of the development of the LQE and RQA as well as a description of each law's respective primary purpose and methods of enforcement. Annex 2 enclosed in this letter contains the Secretariat's draft research into penalties for offences against sections 96.1 and 96.2 of the RQA (set forth in section 109 of the LQE and section 96.6 of the RQA) for your information and comment.
2. In accordance with Council Resolution 06-07 instructing the Secretariat to include "...measures taken by Québec to enforce the above noted environmental laws (including [...] the development of an inspection and maintenance program for heavy vehicles), as well as the history and context of the adoption of those measures" please comment on whether the inspection program for heavy vehicles entails penal and/or administrative sanctions and measures for addressing violations of Articles 51 and 19.1 of the LQE, and the first part of Article 96.2 of the RQA, as well as the *Règlement sur les normes environnementales applicables aux véhicules lourds* (and if so, what these are)?
  - a) In your response, please also comment on each sub-paragraph of NAAEC Article 5(1) noting whether the respective category of "government action" listed has been applied to heavy vehicles and is reflected in the Inspection and Maintenance program ("I/M") for lowering emissions mentioned in 3.1.4.3 of the Response submitted jointly on 1 February 2005 by the Quebec Ministry of the Environment and Environment Canada.
  - b) The MDDEP website<sup>1</sup> for the *Programme d'inspection et d'entretien des véhicules automobiles lourds* (PIEVAL) describes the program's operation. Section 5 of the PIEVAL explains the procedure for identification and control of heavy vehicle emissions. Please include information on the program since its inception such as number of inspections, number of vehicles identified out of compliance, and number of follow-up inspections post-violation.
  - c) With reference to "Annex 3" enclosed with this letter, please comment on whether PIEVAL uses any of the emission testing methods enumerated therein?
3. We refer to the response to Question 3 of Quebec's 22 September 2008 letter, which states in relevant part:

"Il est exact qu'un Programme d'inspection et d'entretien des véhicules automobiles lourds (PIEVAL) ne constitue pas une application des articles 96.1 et 96(2) du RQA. Cependant, tel que mentionné dans la réponse du 1<sup>er</sup> février 2005 [3.1.4.3], le gouvernement a pris décision de transférer la priorité d'action et ses efforts vers le contrôle des émissions des véhicules lourds, et désire viser les véhicules légers dans une phase subséquente."

Please explain whether an I/M program for light vehicles would be the same or a similar I/M program as that for heavy vehicles?

4. We also refer to the Response of February 2005 at Paragraph 3.2.3 on Page 12 which states:

"Would it be feasible to gather evidence by having police officers randomly check vehicles on the road? The Quebec Environment Quality Act does not have provisions allowing such inspections. When section 51 of the LQE was passed, there was no question of the need to give police officers the authority to stop a vehicle due to non-compliance with environmental standards. At the time there was no legal precedent that might construe random road checks of vehicles as illegal detention in accordance with the Canadian and Quebec Charters of Rights and Freedoms, as these were adopted several years later."

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1. <<http://www.mddep.gouv.qc.ca/air/pieval/index.htm#5-etape>>.

Please comment on whether a mandatory inspection or other similar program for light vehicles might attract or excite constitutional rights violations as indicated by the above cited paragraph 3.2.3 of the Response.

The Secretariat would like to receive the information being requested as soon as possible, and no later than **2 February 2009**.

Thank you in advance for your attention to this matter. A French translation of this letter will follow shortly. Should you have any questions regarding this request please do not hesitate to contact me, Mr. Dane Ratliff, Director (dratliff@cec.org), or my colleague, Ms. Marcelle Marion, Legal Officer, at mmarion@cec.org.

Sincerely,

**Secretariat of the Commission for Environmental Cooperation**

*(original signed)*

Director, Submissions on Enforcement Matters Unit

c.c. Assistant Deputy Minister, Environment Canada  
Acting Assistant Administrator, US EPA  
Chief of International Affairs Co-ordination Unit, Semarnat  
Policy Advisor, Environment Canada  
Deputy Minister, MDDEP  
Executive Director, CEC

## Response from the Party (Canada/Quebec), dated 12 May 2009

### Annex I – Response from the Quebec Ministry of Sustainable Development, Environment and Parks (MDDEP)

1. With reference to NAAEC Article 45(2)(c) and to the first series of attachments of Additional Information submitted by the Quebec Government on 27 November 2006, please provide a brief description of the history and context of the development of the LQE and RQA as well as a description of each law's respective primary purpose and methods of enforcement. Annex 2 enclosed in this letter contains the Secretariat's draft research into penalties for offences against sections 96.1 and 96.2 of the RQA (set forth in section 109 of the LQE and section 96.6 of the RQA) for your information and comment.

**Answer: There is no information to add to what is already provided in the Government of Quebec's answers of November 27, 2006 and September 22, 2008. We will provide input on only the complete factual record and not on partial preliminary aspects of the factual record.**

2. In accordance with Council Resolution 06-07 instructing the Secretariat to include "...measures taken by Québec to enforce the above noted environmental laws (including [...] the development of an inspection and maintenance program for heavy vehicles), as well as the history and context of the adoption of those measures" please comment on whether the inspection program for heavy vehicles entails penal and/or administrative sanctions and measures for addressing violations of Articles 51 and 19.1 of the LQE, and the first part of Article 96.2 of the RQA, as well as the *Règlement sur les normes environnementales applicables aux véhicules lourds* (and if so, what these are)?

a) In your response, please also comment on each sub-paragraph of NAAEC Article 5(1) noting whether the respective category of "government action" listed has been applied to heavy vehicles and is reflected in the Inspection and Maintenance program ("I/M") for lowering emissions mentioned in 3.1.4.3 of the Response submitted jointly on 1 February 2005 by the Quebec Ministry of the Environment and Environment Canada.

#### Article 5: Government Enforcement Action

1. With the aim of achieving high levels of environmental protection and compliance with its environmental laws and regulations, each Party shall effectively enforce its environmental laws and regulations through appropriate governmental action, subject to Article 37, such as:

(a) appointing and training inspectors;

**Answer: Sixty-five of Quebec Highway Enforcement (*Contrôle routier Québec-CRQ*) officers have been trained to conduct inspections on the road. The CRQ internally selects its designated inspectors for each region.**

**One hundred and two mechanics work in accredited establishments for vehicle re-inspection. They have received training for doing these inspections enabling them, after ensuring that the vehicles are in compliance, to close the violation file.**

(b) monitoring compliance and investigating suspected violations, including through on-site inspections;

**Answer: Thirty-two shops are accredited by the MDDEP for re-inspecting vehicles that have been found to be non-compliant. Some of these shops provide the inspection service at businesses using mobile units.**

**Members of the Heavy-duty Vehicle Inspection and Maintenance Program (*Programme d'inspection et d'entretien des véhicules automobiles lourds-PIEVAL*) team do an initial follow-up with owners who have exceeded the 30-day timeframe after receiving the repair notice sent by the minister and who have not proven their compliance.**

If, after being contacted by the PIEVAL team, no proof of compliance is submitted, the files pertaining to owners who have disregarded the minister's notice about re-inspection of their vehicles are forwarded to Quebec's Environmental Enforcement Center (*Centre de contrôle environnemental*) of the MDDEP, which is responsible for inquiries.

(c) seeking assurances of voluntary compliance and compliance agreements;

**Answer: Not applicable with the PIEVAL.**

Accredited establishments as well as a number of garages and businesses carry out prevention inspections for owners wishing to verify compliance of their vehicles independently of the inspections carried out. A list of these establishments was sent to the primary associations in the transportation field in 2006.

(d) publicly releasing non-compliance information;

**Answer: The MDDEP's annual management report mentions the main results of the program.**

Also, a visual characterization study of the fleet done in 2005 and 2007 noted the changes in the fleet of heavy vehicles in Quebec and a drop in the rate of non-compliant vehicles (52%). The report can be consulted at the following address:

<http://www.mddep.gouv.qc.ca/air/pieval/Rapport-PIEVAL2007.pdf>

(e) issuing bulletins or other periodic statements on enforcement procedures;

**Answer: Since no bulletins or other statements are published, adjustments or changes to the procedure are conveyed to inspectors through instruction memos made available at Contrôle routier Québec.**

Also, when the method used by the accredited shops is updated, the most recent version is posted on the Internet site of the Quebec centre for Environmental Analysis and Expertise (*Centre d'expertise en analyse environnementale du Québec*) at the following address:

<http://www.ceaeq.gouv.qc.ca/accreditation/paeaevl/>

(f) promoting environmental audits;

**Answer: Communication activities regarding the PIEVAL, promoting vehicle maintenance and preventative inspection are done during:**

- shows or conferences in the transportation world;
- open houses by the Quebec Automobile Insurance Corporation (*Société de l'assurance automobile du Québec-SAAQ*).

(g) requiring record keeping and reporting;

**Answer: The MDDEP's and the SAAQ's annual management report informs the public about the main results of the PIEVAL program.**

**A follow-up of all records of vehicles found to be non-compliant is done internally, both on paper and computer, mainly through the use of a database.**

(h) providing or encouraging mediation and arbitration services;

**Answer: Negotiations by mutual agreement are done with some owners when there is a problem with the 30-day time frame allowed by the minister for vehicle re-inspection.**

(i) using licenses, permits or authorizations;

**Answer: Not applicable with the PIEVAL.**

**However, a complete accreditation procedure must be carried out for an establishment to be authorized to do the vehicle re-inspections under the PIEVAL.**

(j) initiating, in a timely manner, judicial, quasi-judicial or administrative proceedings to seek appropriate sanctions or remedies for violations of its environmental laws and regulations;

**Answer: As of December 31, 2008, 662 files from the SAAQ involving violations of section 10 of the Regulation respecting Environmental Standards for Heavy Vehicles were entered into the PIEVAL database. These files were sent in paper and computer format to the Quebec Ministry of Justice. Information regarding the number of fines issued by the Ministry of Justice of Quebec (Ministère de la Justice du Québec) is not available at present.**

**Four hundred and forty-two repair notices under section 11 of the Regulation respecting environmental standards for heavy vehicles were sent by the MDDEP to owners of this type of vehicle.**

**Eight files were referred to Quebec's Environmental Enforcement Center for inquiry following non-compliance with section 11 of the regulation.**

(k) providing for search, seizure or detention; or

**Answer: Not applicable to the PIEVAL.**

(l) issuing administrative orders, including orders of a preventative, curative or emergency nature.

**Answer: Not applicable to the PIEVAL.**

b) The MDDEP website for the Heavy-duty Vehicle Inspection and Maintenance Program (*Programme d'inspection et d'entretien des véhicules automobiles lourds*—PIEVAL) describes the program's operation. Section 5 of the PIEVAL explains the procedure for identification and control of heavy vehicle emissions. Please include information on the program since its inception such as number of inspections, number of vehicles identified out of compliance, and number of follow-up inspections post-violation.

**Answer:**

**Number of inspections conducted:**

<b>2006:</b>	<b>600</b>
<b>2007:</b>	<b>690</b>
<b>2008:</b>	<b>741</b>
<b>Total:</b>	<b>2031</b>

**Number of vehicles designated as non-compliant:**

<b>2006:</b>	<b>25</b>
<b>2007:</b>	<b>310</b>
<b>2008:</b>	<b>342</b>
<b>Total:</b>	<b>677</b>

**Number of follow-up inspections conducted following an infraction:**

<b>2006:</b>	<b>20</b>
<b>2007:</b>	<b>231</b>
<b>2008:</b>	<b>223</b>
<b>Total:</b>	<b>474</b>

**Number of vehicles retired:**

<b>2006:</b>	<b>2</b>
<b>2007:</b>	<b>15</b>
<b>2008:</b>	<b>8</b>
<b>Total:</b>	<b>25</b>



c) With reference to “Annex 3” enclosed with this letter, please comment on whether PIEVAL uses any of the emission testing methods enumerated therein?

**Answer: The analysis methods provided in the regulations are:**

**For diesel-powered vehicles: the “Snap Acceleration Smoke Test Procedure for Heavy-Duty Diesel Powered Vehicles” bearing number J1667 and published by the Society of Automotive Engineers.**

**For gas-powered vehicles: the “Preconditioned Two Speed Idle Test Procedure [USEPA Publication EPA-AA-TSS-I/M-90-3 January 1991 – Recommended I/M Short Test Procedures for the 1990’s]: Six Alternatives” published by the United States Environmental Protection Agency.**

**As indicated in the Heavy-duty vehicle emissions analysis protocol (*Protocole d’analyse des émissions des véhicules lourds*):**

**[http://www.ceaeq.gouv.qc.ca/accreditation/paeaevl/dr12pieval\\_02.pdf](http://www.ceaeq.gouv.qc.ca/accreditation/paeaevl/dr12pieval_02.pdf)**

3. We refer to the response to Question 3 of Quebec’s 22 September 2008 letter, which states in relevant part:

“Il est exact qu’un Programme d’inspection et d’entretien des véhicules automobiles lourds (PIEVAL) ne constitue pas une application des articles 96(1) et 96(2) du RQA. Cependant, tel que mentionné dans la réponse du 1<sup>er</sup> février 2005 [3.1.4.3], le gouvernement a pris décision de transférer la priorité d’action et ses efforts vers le contrôle des émissions des véhicules lourds, et désire viser les véhicules légers dans une phase subséquente.”

Please explain whether an I/M program for light vehicles would be the same or a similar I/M program as that for heavy vehicles?

**Answer: The Government of Quebec has made it a priority to develop a program for controlling emissions from heavy vehicles. At present, no terms have been issued regarding the form that a potential program for light vehicles could take. The Quebec Ministry of Sustainable Development, Environment and Parks (ministère du Développement Durable, de l’Environnement et des Parcs) is awaiting recommendations from the advisory committee formed for this and which includes the AQLPA.**

4. We also refer to the Response of February 2005 at Paragraph 3.2.3 on Page 12 which states:

“Would it be feasible to gather evidence by having police officers randomly check vehicles on the road? The Quebec Environment Quality Act does not have provisions allowing such inspections. When section 51 of the LQE was passed, there was no question of the need to give police officers the authority to stop a vehicle due to non-compliance with environmental standards. At the time there was no legal precedent that might construe random road checks of vehicles as illegal detention in accordance with the Canadian and Quebec Charters of Rights and Freedoms, as these were adopted several years later.”

Please comment on whether a mandatory inspection or other similar program for light vehicles might attract or excite constitutional rights violations as indicated by the above cited paragraph 3.2.3 of the Response.

**Answer: As indicated in the previous question, no terms have been issued regarding the form that a potential program for light vehicles could take. Therefore, it is impossible to comment on this aspect at this stage, given that the MDDEP is currently awaiting recommendations from the advisory committee.**

## **APPENDIX 8**

### **Timeline of key events related to the control of emissions and air pollution in Canada, Quebec, and Montreal**

## Timeline of key events related to the control of emissions and air pollution in Canada, Quebec, and Montreal

Date	Federal	Provincial	Municipal
1832			Under its charter, the City of Montréal obtains powers to regulate air pollution.
1872			City of Montreal: Regulation 56 "to require owners of steam engines in this city to equip their engines with exhaust recovery devices."
1908	<i>Regulation concerning the smoke from locomotives and fixed boilers of thermal power plants in Montreal</i>		
1931			City of Montreal: Regulation 1112 concerning opacity of emissions
1959			City of Montreal: first dust-fall measures
1964	<i>Regulation on smoke from ships</i>		<i>Cities and Towns Act</i> grants certain powers to affected municipalities concerning smoke absorbing devices and pollution.
1967			First on-going air-quality measures (SO <sub>2</sub> ) by the City of Montreal
1968		Quebec's <i>Public Health Act</i> : beginnings of the fight against air pollution (Department of Health)	
1969	Founding of the National Air Pollution Surveillance Network (NAPS)		
1970			City of Montreal adopts air quality standards for SO <sub>2</sub> particulates, along with limits on the sulfur content of heating oil (Regulation 4007).  Creation of the Montreal Urban Community (MUC)  City of Montreal, Traffic and Parking Regulation (No idling)
1971	Creation of the Department of the Environment  <i>Clean Air Act</i>  CO emissions standards ( <i>Motor Vehicle Safety Act</i> )		Creation of the Environmental Protection Department  First urban air quality measures taken outside the Island of Montréal.
1972		<i>Environment Quality Act</i>	
1973	<i>Lead-Free Gasoline Regulations</i>		
1974	Air quality objectives established  <i>Leaded Gasoline Regulations</i>  Introduction of catalytic converters for new vehicles (tightening of CO emissions standards and new standard for VOCs)  Unleaded gasoline introduced to the market		
1975		Air quality monitoring program is established	
1977	<i>Asbestos Mining and Milling National Emission Standards Regulations</i>	<i>Regulation respecting pits and quarries</i> adopted	

Date	Federal	Provincial	Municipal
1978	<i>Chlor-Alkali Mercury National Emission Standards Regulations</i>		
1979	Vinyl Chloride National Emission Standards  Geneva Convention: Convention on Long-range Transboundary Air Pollution	Creation of Quebec environment ministry  <i>Regulation respecting pulp and paper mills</i> (section on air pollution)  <i>Regulation respecting hot mix asphalt plants</i> are adopted.	Regulation 44 on emission limits, replacing Regulation 9, comes into force on MUC territory.
1980	Memorandum of Intent Concerning Transboundary Air Pollution between Canada and the United States		
1981		<i>Regulation respecting the quality of the atmosphere</i>	Air quality surveillance networks Agreement between Montreal and MDDEP  Montreal given exclusive authority to regulate emissions from industrial, commercial, residential, institutional sources located on its territory.
1984		Acid rain policy: objective set to reduce SO <sub>2</sub> emissions by 45% between 1980 and 1990  Amendment of <i>Regulation respecting the quality of the atmosphere</i> (copper and zinc mines, along with provisions for the installation and maintenance of catalytic converters)	
1985		First rural ozone measures taken by the environment ministry  Amendments to the <i>Regulation on the Quality of the Atmosphere respecting the quality of the atmosphere</i> (air purification, sale or use of motor vehicles, motor vehicle maintenance, anti-pollution devices, modification or removal of anti-pollution devices)	
1987	<i>Motor Vehicle Safety Act</i> (tightening of CO and VOC emission standards, and new standard for NO <sub>x</sub> )		Adoption of Regulation 90 concerning the update of the MUC's Regulation 44 (see 1979)
1988	<i>Canadian Environmental Protection Act</i> is passed.  Ratification of the Montreal Protocol on Substances that Deplete the Ozone Layer  Canada and US harmonize on-road vehicle emission standards.	First farming and forestry stations established under a joint ministerial project between the Menviq, the MFQ and the MAPAQ	
1989		Quebec commits to increase its reduction of SO <sub>2</sub> to 55% compared with 1980 levels by 1995.	
1990	Sale of leaded gasoline ends.  CCME – 1990 Management Plan for NO <sub>x</sub> /VOC Phase 1 (Emission targets to 2005) includes the special measures for high pollution regions (anti-tampering and I/M light-duty vehicle programs)	<i>Regulation respecting the quality of the atmosphere</i> amended to place stricter limits on the sulfur content of heavy oil.  MDDEP Initiation of annual inventory of greenhouse gas emissions  Quebec signs Phase 1 of the NO <sub>x</sub> /VOC Management Plan and ozone target to 2005; I/M program; maintenance of anti-pollution device	

Date	Federal	Provincial	Municipal
1991	Canada–United States Air Quality Agreement		
1992	Framework Convention for Climatic Change	<i>Regulation respecting pulp and paper mills amended: annual emission measurement</i>	
1993	CCME and Energy Ministers Comprehensive Air Quality Management Framework for Canada	Quebec commits to limit future SO <sub>2</sub> emissions to 500,000 t/year	
1994	Implementation of the Info-Smog air quality prevention program in collaboration with the MEF, the MUC and the DSP  North American Agreement on Environmental Cooperation – Agreement between Canada, Mexico and the United States	Info-Smog (Montréal)	Info-Smog launched in the Greater Montreal region
1995	Regional Action Plan on persistent organic pollutants (POPs), under the direction of the Commission for Environmental Cooperation (CEC) (Canada, United States, Mexico)  The CCME endorses provincial programs for vehicle inspection and maintenance and new fuel and emission standards	Air emissions standards of the Regulation respecting pulp and paper mills revised	Capture and reclamation of biogases produced by the Saint-Michel Environmental Complex landfill site
1996		Quebec signs a declaration (Annex 41) on the North American Agreement on Environmental Cooperation – Agreement between Canada, Mexico and the United States	Repeal of Article 7.03 concerning ragweed.  Amendment concerning the recovery of gasoline fumes in gasoline distribution networks and the reduction of diesel fuel sulfur content.
1997	<i>Benzene in Gasoline Regulations</i>		
1998	Canada-Wide Acid Rain Strategy for Post-2000 <i>Sulphur in Gasoline Regulations</i> CCME (with the exception of Quebec) sign the <i>Canada-wide Accord on Environmental Harmonization</i> and annexes	Canada-Wide Acid Rain Strategy for Post-2000; limit of 300,000 t/year for 2005 and of 250,000 t/year for 2010	Amendment of the section of Regulation 90 dealing with incinerators, except for treatment plant sludge
1999	<i>Canadian Environmental Protection Act, 1999 revision</i>  <i>Gasoline and Gasoline Blend Dispensing Flow Rate Regulations</i>  Integration of motor vehicle regulation powers into CEPA		Addition of requirements for the manufacture of organic compounds through oxidation
2000	Ozone Annex to the Canada–United States Air Quality Agreement  Canadian-Wide Standards for particulate matter (PM) and ozone to 2010  CEPA amended including a new framework for setting ambient air quality objectives.	Quebec agrees to act in accordance with the Canadian-wide Standards for particulate matter and ozone.  Issuance of de-pollution attestations (5-year permits) for pulp and paper mills  Quebec Climate Change Action Plan 2000–2002 includes I/M programs	Introduction of requirements concerning the incineration of treatment plant sludge.  Addition of requirements concerning the implementation of a program to measure and repair leaks of organic compounds in equipment from chemical and petrochemical refineries, terminals and plants.  Amendment of Article 6.02 to make it applicable to smaller reservoirs and require the installation of floating covers with double leak-tight seals.  Creation of the Montréal Metropolitan Community and transfer of air purification powers from the MUC to the CMM.

Date	Federal	Provincial	Municipal
2001	<p>Pollution Prevention: A Federal Strategy for Action</p> <p><i>Sulphur in Diesel Fuel Regulation</i></p> <p>CEPA includes PM<sub>10</sub> as a 'toxic' substance. Ozone and its precursors (sulphur oxides, nitrogen oxides, volatile organic compounds, and gaseous ammonia) classified as 'toxic substances'</p> <p>CCME (with the exception of Quebec) sign the Canada-wide <i>Inspection and Enforcement Sub-Agreement</i> (See 1998)</p>		Adoption of Regulation 90 on incinerators and its amendments by the CMM
2002	<i>On-Road Vehicle and Engine Emission Regulations</i>	Symposium on air pollution and public health (link: <a href="http://www.mddep.gouv.qc.ca/air/symposium/index-en.htm">http://www.mddep.gouv.qc.ca/air/symposium/index-en.htm</a> )	
2003	<i>Off-Road Small Spark-ignition Engine Emission Regulations</i>		
2004	<p>Stockholm Convention on Persistent Organic Pollutants</p> <p><i>On-Road Vehicle and Engine Emission Regulations</i> – (see 2002) Introduction of Tier-2 emissions program applicable to all light duty vehicles</p>	<p>Quebec Air Quality Index (AQI) accessible on the Internet</p> <p><i>Regulation respecting halocarbons</i></p>	
2005	<p>Ratification of the Kyoto Protocol</p> <p>Memorandum of Understanding for the voluntary reduction of greenhouse gases signed by the Government of Canada and the Canadian automotive industry in 2010, annual emissions reductions will reach 5.3 megatonnes.</p>	<p>Inclusion of the previous 48 hours into the AQI</p> <p><i>Regulation respecting environmental standards for heavy-duty vehicles</i></p>	Strategic Sustainable Development Plan for Montreal
2006		Climate Change – A Challenge for the Future, 2006–2012 Action Plan	
2007	<i>Off-Road Compression-Ignition Engine Emission Regulations</i>	<p>AQI made available through Météo Média (television and Internet)</p> <p><i>Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere</i></p> <p><i>Regulation respecting the annual duty payable to the Green Fund</i></p>	
2009			Montreal passes by-law restricting wood-burning stoves

Source: MDDEP, *La qualité de l'air au Québec de 1975 à 1994*, gouvernement du Québec, 1997, en ligne: <<http://www.mddep.gouv.qc.ca/air/evenements/historique.htm>> (consultée le 21 juillet 2011), p. 41 à 43.





## **APPENDIX 9**

### **Environmental law-related prosecutions and investigations by Quebec**

## Environmental law-related prosecutions and investigations by Quebec

**Table 1. Statements of Offence, Legal Action and Appearances**

Statements of Offence, Legal Action and	Description of Offence Appearances	Guilty Plea / Appearance
<p><i>P.G.Q. vs. Desgagné Léo</i></p> <ul style="list-style-type: none"> <li>• District of Chicoutimi</li> <li>• Court record no.: 150-27-000157-921</li> <li>• D.A.J. file no.: Q001598</li> </ul>	<p>“on or about 27 June 1991, allowed the removal of a device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, i.e., the vehicle’s catalytic converter, in contravention of the provisions of section 96.2 of the [RQA...], thereby committing an infraction under article 109 of the [LQE...] and becoming liable to penalties set out in section 96.6 of the [RQA]”.</p> <ul style="list-style-type: none"> <li>• Date of infraction: 27 June 1991</li> <li>• Sections 96.2 and 96.6 RQA; 109 LQE</li> <li>• Minimum fine: \$500; Maximum: \$1,500</li> </ul>	<p>“was sentenced by the court on 16 March 1992 to \$500 + costs”</p> <ul style="list-style-type: none"> <li>• Date of appearance: 16 March 1992</li> <li>• Fine: \$500 + costs</li> </ul>
<p><i>P.G.Q. vs. Silencieux G.R. Invs.</i></p> <ul style="list-style-type: none"> <li>• District of Chicoutimi</li> <li>• Court record no.: 150-27-000158-929</li> <li>• D.A.J. file no.: Q001599</li> </ul>	<p>“on or about 27 June 1991, removed a device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, i.e., the vehicle’s catalytic converter, in contravention of the provisions of section 96.2 of the [RQA...], thereby committing an infraction under article 109 of the [LQE...] and becoming liable to penalties set out in section 96.6 of the [RQA]”.</p> <ul style="list-style-type: none"> <li>• Date of infraction: 27 June 1991</li> <li>• Sections 96.2 and 96.6 RQA; 109 LQE</li> <li>• Minimum fine: \$2,500; Maximum: \$50,000</li> </ul>	<p>“was sentenced by the court on 16 March 1992 to \$2,500 + costs”</p> <ul style="list-style-type: none"> <li>• Date of appearance: 16 March 1992</li> <li>• Fine: \$2,500 + costs</li> </ul>
<p><i>P.G.Q. vs. Silencieux Gosselin Invs.</i></p> <ul style="list-style-type: none"> <li>• District of Québec City</li> <li>• Offence file no.: 1003801940002860</li> <li>• D.A.J. file no.: Q003441-1</li> </ul>	<p>“on or about 9 October 1992, removed or modified or allowed to be removed or modified a device installed in a motor vehicle, i.e., a 1985 Jaguar, bearing the serial number SAJCL1243FC411265, to reduce or eliminate the emission of a contaminant into the environment, in contravention of section 96.2 of the [RQA...], thereby committing an infraction under article 109 of the [LQE...] and becoming liable to penalties set out in section 96.6 of the [RQA]”.</p> <ul style="list-style-type: none"> <li>• Date of infraction: 9 October 1992</li> <li>• Sections 96.2 and 96.6 RQA; 109 LQE</li> <li>• Minimum fine: \$2,500;</li> </ul>	<p>“pleaded guilty and paid a fine of \$2,500 plus costs of \$15 on 4 October 1994”</p> <ul style="list-style-type: none"> <li>• Date of plea: 4 October 1994</li> <li>• Fine: \$2,500 + costs</li> </ul>
<p><i>P.G.Q. vs. Paul-André Ruellard</i></p> <ul style="list-style-type: none"> <li>• District of Québec City</li> <li>• Offence file no.: 1003801940002870</li> <li>• D.A.J. file no.: Q003441-2</li> </ul>	<p>“on or about 9 October 1992, removed or modified a device installed in a motor vehicle, i.e., a 1985 Jaguar, bearing the serial number SAJCL1243FC411265, to reduce or eliminate the emission of a contaminant into the environment, in contravention of section 96.2 of the [RQA...], thereby committing an infraction under article 109 of the [LQE...] and becoming liable to penalties set out in section 96.6 of the [RQA]”.</p> <ul style="list-style-type: none"> <li>• Date of infraction: 9 October 1992</li> <li>• Sections 96.2 and 96.6 RQA; 109 LQE</li> <li>• Minimum fine: \$500;</li> </ul>	<p>“pleaded guilty and paid a fine of \$500 plus costs of \$15 on 4 October 1994”</p> <ul style="list-style-type: none"> <li>• Date of plea: 4 October 1994</li> <li>• Fine: \$500 + costs</li> </ul>
<p><i>P.G.Q. vs. Dominique Fortin</i></p> <ul style="list-style-type: none"> <li>• District of Québec City</li> <li>• Offence file no.: 1003801940002880</li> <li>• D.A.J. file no.: Q003441-3</li> </ul>	<p>“on or about 7 October 1992, advised, encouraged or incited a person to commit an infraction under the [LQE...], i.e., allowed to be removed or modified a device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, in contravention of section 96.2 of the [RQA...], thereby himself committing, under article 109.2 of the [LQE...], the offence set out</p>	<p>“pleaded guilty and paid a fine of \$500 plus costs of \$15 on 10 November 1994”</p> <ul style="list-style-type: none"> <li>• Date of plea: 10 November 1994</li> <li>• Fine: \$500 + costs</li> </ul>

Statements of Offence, Legal Action and	Description of Offence Appearances	Guilty Plea / Appearance
	<p>in article 109 of the [LQE...] and becoming liable to penalties set out in section 96.6 of the [RQA].”</p> <ul style="list-style-type: none"> <li>• Date of infraction: 7 October 1992</li> <li>• Sections 96.2 and 96.6 RQA; 109 and 109.2 LQE</li> <li>• Minimum fine: \$500;</li> </ul>	
<p><i>P.G.Q. vs. Richard Laplante</i></p> <ul style="list-style-type: none"> <li>• District of Québec City</li> <li>• Offence file no.: 1003801950001420</li> <li>• D.A.J. file no.: Q004133-1</li> </ul>	<p>“on or about 20 July 1993, used a light motor vehicle of a model subsequent to 1985, i.e., a 1986 Ford Mustang, that was not equipped with a device in good working order to reduce the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere, in contravention of section 96.1 of the [RQA...], thereby committing an infraction under article 109 of the [LQE...] and becoming liable to penalties set out in this article.”</p> <ul style="list-style-type: none"> <li>• Date of infraction: 20 July 1993</li> <li>• Articles: 96.1 RQA; 109 LQE</li> <li>• Minimum fine: \$300;</li> </ul>	<p>“was sentenced by the court on 16 October 1995” to a fine of \$300 plus costs</p> <ul style="list-style-type: none"> <li>• Date of appearance: 16 October 1995</li> <li>• Fine: \$300 + costs</li> </ul>
<p><i>P.G.Q. vs. Richard Laplante</i></p> <ul style="list-style-type: none"> <li>• District of Québec City</li> <li>• Offence file no.: 1003801950001430</li> <li>• D.A.J. file no.: Q004133-2</li> </ul>	<p>“on or about 16 January 1994, sold a light motor vehicle of a model subsequent to 1985, i.e., a 1986 Ford Mustang, that was not equipped with a device in good working order to reduce the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere, in contravention of section 96.1 of the [RQA...], thereby committing an infraction under article 109 of the [LQE...] and becoming liable to penalties set out in this article.”</p> <ul style="list-style-type: none"> <li>• Date of infraction: 16 January 1994</li> <li>• Articles: 96.1 RQA; 109 LQE</li> <li>• Minimum fine: \$300;</li> </ul>	<p>“was sentenced by the court on 16 October 1995” to a fine of \$300 plus costs</p> <ul style="list-style-type: none"> <li>• Date of appearance: 16 October 1995</li> <li>• Fine: \$300 + costs</li> </ul>
<p><i>P.G.Q. vs. André Tremblay</i></p> <ul style="list-style-type: none"> <li>• District of Québec City</li> <li>• Offence no.: 1003801980001560</li> <li>• D.A.J. file no.: Q006004-CA.</li> </ul>	<p>“on or about 26 August 1996, removed or modified or allowed to be removed or modified a device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, (i.e., the removal of the catalytic converter of a 1989 Chevrolet Corsica [...], in contravention of section 96.2 of the [RQA...], thereby committing an infraction under article 109 of the [LQE...] and becoming liable to penalties set out in section 96.6 of the [RQA].”</p> <ul style="list-style-type: none"> <li>• Date of infraction: 26 August 1996</li> <li>• Sections 96.2 and 96.6 RQA; 109 LQE</li> <li>• Minimum fine: \$500; maximum: \$1,500</li> </ul>	<p>“pleaded guilty and paid a fine of \$500 plus costs of \$100 on 14 July 1998”</p> <ul style="list-style-type: none"> <li>• Date of plea: 14 July 1998</li> </ul>

**Table 2. Investigations and Inspection Reports**

Document	Content
<p>“Jonathan DeLaRosbil” file</p> <ul style="list-style-type: none"> <li>• Our ref.: 7124-03-02-0000012</li> <li>• Your ref.: 7610-03-01-00872-0A)</li> </ul>	<ul style="list-style-type: none"> <li>• 10-11 July 2002: The National Capital Regional Directorate of the Ministry of the Environment approves the <i>Request for intervention by the investigative division of the National Capital Regional Directorate (Demande d'intervention à la Division des enquêtes de la Direction régionale de la Capitale Nationale)</i> and sends the case file to Mr. Réal Dion (Our ref.: 7124-03-02-0000012; Your ref.: 7610-03-01-00872-0A) <ul style="list-style-type: none"> <li>◦ Infraction: “Infraction under section 96.2 of the [RQA] (Q-2, r.20). Lack of catalytic converter on a motor vehicle.”</li> <li>◦ Purpose of request: “following a request for intervention from the Québec City police department, to look into the possibility of initiating proceedings under section 96.2 RQA (Q-2, r. 20).”</li> <li>◦ Details: “On 9 June 2002, officers of the Québec City police department intercepted a motor vehicle whose owner had removed the catalytic converter.”</li> <li>◦ Date of police report: 14 June 2002</li> </ul> </li> <li>• Conclusion of investigation: The investigator, Réal Dion, recommends taking action against Mr. Jonathan DeLaRosbil for having, on 9 June 2002, used a motor vehicle that was not equipped with a functioning device to reduce the emission of carbon monoxide into the atmosphere, thereby contravening section 96.1 of the [RQA] Q-2, r.20.”</li> <li>• 8 April 2004: The National Capital Regional Directorate of the Ministry of the Environment submits the file “Jonathan DeLaRosbil” (Our ref.: 7124-03-02-0000012, Sage: 300146935), prepared by the regional division of environmental investigation, to the Judicial Affairs Directorate for analysis “so that proceedings eventually be initiated against Mr. Jonathan Delarosbil.”</li> <li>• 27 April 2004: The Judicial Affairs Directorate – Environment of the Justice Department informs the National Capital Regional Directorate to close the Jonathan Delarosbil file “given the conviction for the same infraction under the Highway Code[, ...] to avoid multiple convictions.”</li> </ul>
<p><i>Inspection report du Centre de l'auto M.S.L.</i></p> <ul style="list-style-type: none"> <li>• Our ref.: 7610-13-01-00344-03</li> <li>• Report date: 15 August 2006</li> </ul>	<ul style="list-style-type: none"> <li>• Date of inspection: 2006-08-15</li> <li>• Location inspected: Centre de l'auto M.S.L. (Laval, Québec)</li> <li>• Complainant: Mr. André Soucy</li> <li>• Person contacted: Mr. George Asber, owner</li> <li>• Purpose: Verify the legitimacy of a complaint concerning the removal of anti-pollution devices from automobiles.</li> <li>• Description of inspection: “During the inspection [of the garage], I did not note any activity related to the removal of anti-pollution devices. I explained the regulations concerning this matter [to the garage owner] and gave him a copy of section 96.2 RQA concerning the removal of anti-pollution devices. He was also informed of the possible fines related to an offence. He said he was pleased because he would now be able to show it to customers who asked him to remove the anti-pollution system without replacing it. He also told me that he had on a few rare occasions removed anti-pollution systems without replacing them.”</li> <li>• Conclusion: “No infraction noted during the inspection.”</li> <li>• Recommendation: “Close file”</li> </ul>

## **APPENDIX 10**

**Memorandum, MDDEP Division of Air Quality,  
dated 27 March 2000**



MEMORANDUM

**RECIPIENT:** [REDACTED]  
Head of Department of Air Quality

**SENDER:** [REDACTED]  
Department of Air Quality

**DATE:** 27 March 2000

**RE:** Inspection of anti-pollution devices on  
used vehicles imported into Quebec

---

On 21 May 1999, [REDACTED] issued a legal opinion on section XXX.1 of the RQA, which deals with automobile emissions.

To review the text of the two sections in question:

“96.1 Sale or use of motor vehicles: Any light motor vehicle of a model subsequent to 1985 offered for sale, on display for sale, sold or used in Québec must be equipped with a device in good working order to reduce the emission of hydrocarbons, carbon monoxide and nitrogen oxides into the atmosphere.”

“96.2 Removal of anti-pollution devices: No one may remove or modify or allow to be removed or modified any device installed in a motor vehicle to reduce or eliminate the emission of a contaminant into the environment, or, in the case of a light motor vehicle equipped with a catalytic converter, modify or allow to be modified the opening of the fuel tank or pour leaded gasoline therein.”

In her opinion, [REDACTED] inferred that the scarcity of convictions is due to the difficulty in gathering sufficient evidence. She also implied that an amendment to the regulation is desirable to obtain convictions under sections 96.1 and 96.1 more easily.

The difficulty in enforcing section 96.2 lies in identifying the perpetrator or perpetrators of the infraction. The legal issue with section 96.1 is the necessity of proving that an anti-pollution device is not in good working order.

Industrial Policy Branch  
Air Quality Department

...2

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 This paper contains 30 % post-consumer fiber

Furthermore, the enforcement of these sections for all Québec vehicles would require an inspection unit to visit garages and dealerships and question vehicle owners to find infringing vehicles. The lack of such a unit in Québec limits enforcement of this section of the regulation to cases in which offenders are signaled by whistleblowers, which is likely another major reason why convictions are so scarce.

However, if it were possible to join with an existing governmental program requiring vehicle owners to report to an accredited establishment for inspection, an inspection unit would no longer be necessary. And if, rather than to seek penal convictions, the purpose of this process was instead to restrict road access to non-compliant vehicles, the MENV would no longer have to build and defend a legal case, since it would be up to the vehicle owner to contest the decision of the accredited establishment.

Such establishments already exist: the authorized mechanical inspection establishments of the Québec Automobile Insurance Corporation (*Société de l'assurance automobile du Québec-SAAQ*). The SAAQ program of interest is the one that requires all vehicles registered outside Québec to undergo safety inspections by authorized SAAQ establishments before they can be sold and re-registered in Québec.

In fact, since the implementation of a motor vehicle inspection and maintenance program (MVIMP) in Ontario, there is a strong likelihood of high numbers of that province's non-compliant vehicles being sent here rather than being repaired.

This is why the verification of emissions of these vehicles is the first priority for intervention in any future Québec MVIMP. It is also one of the first initiatives recommended by the MENV's anti-smog program.

My initial contacts with my counterparts at the SAAQ indicate that it would be possible to enter into agreements with the SAAQ on the enforcement of MENV standards, as long as such standards have been adopted under regulations.

Hence, to have section 96.1 RQA enforced by authorized SAAQ establishments for inspecting used vehicles imported into Québec, we need only define what the section means by "a device in good working order."

Technically, the only truly acceptable method of verifying whether an anti-pollution device is in good working order is to measure the contaminants in the exhaust. However, this approach would assume the existence of acceptability limits for various contaminants. It would therefore be relevant to inquire with the Legal Department if the inclusion of emissions standards in the RQA should be contemplated. Since the process of amending the regulation now appears to be underway, this could be done quickly.

I therefore recommend taking the following steps:

- 1) Request the Legal Department, either through Mr. Robert Lemieux, or as part of the RQA amendment process, to assess the usefulness of adding a vehicle emissions standard to section 96.1 so this section could be enforced by authorized SAAQ establishments for the inspection of used vehicles imported into Québec.
- 2) Once this notice has been received, to check with the SAAQ about enforcement conditions of this section by its authorized establishments.
- 3) At the same time, verify the ability of the authorized establishments to carry out these inspections.
- 4) Send MENV officials a draft agreement with the SAAQ and, eventually, an amendment of section 96.1 RQA.

Such an inspection system, if it could be achieved, would quickly furnish an initial vehicle inspection and maintenance process that posed few risks in terms of policy, while providing experience for a more comprehensive program in the future.

Signature

JPL/

## **APPENDIX 11**

### **Relevant provisions of the *Regulation respecting Environmental Standards for Heavy Vehicles***

**Regulation respecting environmental standards for heavy vehicles, c. Q-2, r. 15.3  
(Environment Quality Act, R.S.Q., c. Q-2, s. 31, 1st par., subpara. a, c, d, e, h, h.1,  
h.2, and l, 53, paras. a, b and c, and ss. 109.1, 118.6 and 124.0.1)**

**RQ  
section Matter  
Addressed**

**Provision**

**CHAPTER II  
POLLUTION CONTROL DEVICES AND SYSTEMS**

**7** 7. No owner of a heavy vehicle may allow a heavy vehicle pollution control device or system to be removed or modified and no person may remove or modify such a device or system, except to replace a defective device or system.  
O.C. 1244-2005, s. 6

**DIVISION II  
EMISSIONS FROM DIESEL-POWERED HEAVY VEHICLES**

**12 Standards: Diesel** 12. No air emission from a diesel-powered heavy vehicle may exceed the opacity percentages listed in the following table, based on the vehicle model year:

<u>Model year</u>	<u>Opacity (%)</u>
<b>Until 30 April 2011</b>	
1991 and later	40
1990 and earlier	55
<b>As of 1 May 2011</b>	
1991 and later	30
1990 and earlier	40

O.C. 1244-2005, s. 12; O.C. 158-2011, s. 5.

**13 Test** 13. The opacity of emissions from diesel-powered heavy vehicles is measured:

(1) by the roadside, using one of the following opacimeters:  
 – Red Mountain Engineering’s Smoke Check 1667;  
 – Thermal-Lube’s EXL Diesel Emission Detector; or  
 – Thermal-Lube’s EXL Combo Opacimeter 5-Gas Analyzer;

(2) in an accredited establishment, using an opacimeter, in accordance with the Society of Automotive Engineers recommended practice J1667 Snap-Acceleration Smoke Test Procedure for Heavy-Duty Diesel Powered Vehicles.  
 O.C. 1244-2005, s. 13; O.C. 158-2011, s. 6.

**DIVISION III  
EMISSIONS FROM GASOLINE OR GAS-POWERED HEAVY VEHICLES**

**14 Standards Gasoline  
or Gas**

**14. No gasoline, natural gas or propane gas-powered heavy vehicle may emit hydrocarbons (HC) and carbon monoxide (CO) into the atmosphere in excess of the values listed in the following table, based on the vehicle model year:**

<b>Model year</b>	<b>HC (ppm)</b>	<b>CO (%)</b>	<b>Visible Emissions (s/min)</b>
≥1998	200	1	5
1988-97	220	1.2	5
1980-87	300	3	5
1975-79	400	4	5
1970-74	800	6.5	5
≥1969	1000	8	5

In addition, the sum of carbon dioxide (CO<sub>2</sub>) and carbon monoxide (CO) concentrations must not be less than 6%.

O.C. 1244-2005, s. 14.





## **APPENDIX 12**

**Supplemental information from the Party (Canada/Quebec),  
dated 20 May 2011 (“2011 Supplemental Information”)**

Query on 10-12-10  
List of judgments – RQA

Name of reg.	Reg. respecting the quality of the atmosphere (R.R.O., c. Q-2, r. 20)	Art. 96.1						
Warrant no.	Your file	Statement no.	Offender (moral person)	Offender (physical person)	Date of offence	Element of event judgment	Date of assessment	Amount of
40000	102080813002	1004001111914356	Jean-François Lauzon		13 Aug 2008	Plea receipt date	Presumed guilty	300.00
						Decision	Presumed guilty	
	102080815004	1004001111907558	Luc Lafrenière		15 Aug 2008	Decision	Presumed guilty	300.00
						Judgment date		
	102080829004	1004001112182763	Jean-Philippe Landry		29 Aug 2008	Decision	Presumed guilty	300.00
						Plea receipt date		
	102081025001	1004001111907640	Kevin Archambault		25 Oct 2008	Plea receipt date	Guilty	300.00
						Decision	Guilty	
						Reference no. partner cashing	20100303100200	
	102081106005	1004001111907707	Simon Bonneau		6 Nov 2008	Plea receipt date	Guilty	300.00
						Decision	Guilty	
						Reference no. partner cashing	20100218100500	
	102081109008	1004001111907897	Steve Ménard		9 Nov 2008	Reference no. partner cashing	20100304100700	300.00
						Plea receipt date		
						Decision	Guilty	
	102090715003	1004001112148376	Daniel Corbin		15 Jul 2009	Decision	Guilty	300.00
						Reference no. partner cashing	20100723101700	
						Plea receipt date		
	102090904008	1004001112238896	Olivier Roy		4 Sep 2009	Reference no. partner cashing	20101027101602	300.00
						Plea receipt date		
						Decision	Guilty	
	102090905010	1004001112239985	Jonathan Caron		5 Sep 2009	Decision	Presumed guilty	300.00
						Plea receipt date		
	102091119005	1004001112241668	Éric Pitre		19 Nov 2009	Reference no. partner cashing	20101108100200	300.00
40000	102091119005	1004001112241668	Éric Pitre		19 Nov 2009	Plea receipt date	Guilty	300.00
						Decision	Guilty	
	108100113006	1004001112208097	Michael Greer		13 Jan 2010	Reference no. partner cashing	20101005100200	300.00
						Plea receipt date		
						Decision	Guilty	
	254090707008	1004001112217486	Marie-Hélène Guay		13 Jun 2009	Plea receipt date	Guilty	300.00
						Decision	Guilty	
						Reference no. partner cashing	20100930100200	
	308090302001	1004001112128691	Andy Miller		24 Feb 2009	Decision	Guilty	300.00
						Reference no. partner cashing	20100714102500	
						Plea receipt date		

Name of reg. Warrant no.								Reg. respecting the Quality of the Atmosphere (R.R.O., c. Q-2, r. 20)								Art. 96.1	
Warrant no.	Your file	Statement no.	Offender (moral person)	Offender (physical person)	Date of offence	Element of event judgment	Date of assessment	Amount of									
	308090509009	1004001112144888	Vincent Bourgoin		9 May 2009	Reference no. partner cashing	20100901101305	300.00									
						Decision	Guilty										
						Plea receipt date											
	308090731010	1004001112167343	Kevin Synnott		31 Jul 2009	Judgment date		300.00									
						Decision	Presumed guilty										
						Plea receipt date											
	311100926002	1004001112271376	Dany Brisson		6 Aug 2010	Plea receipt date		300.00									
						Decision	Presumed guilty										
	N/A	1004001112128824	Roger Alain Jalbert		24 Apr 2009	Reference no. partner cashing	20100713101801	300.00									
						Plea receipt date											
						Decision	Guilty										
	1004001112319837		Samuel Charles Ricard		9 Oct 2010	Plea receipt date		300.00									
						Decision	Guilty										
						Reference no. partner cashing	20101126100700										
	308090719007	1004001112149317	Jason Desrosiers		19 Jul 2009	Reference no. partner cashing	20100811100100	100.00									
						Decision	Guilty										
						Plea receipt date											
	308090909-001	1004001112168879	Dany Soucy		28 Aug 2009	Plea receipt date		300.00									
						Decision	Guilty										
						Plea receipt date											
40010	102081008001	1004001111907533	Alexandre Ares		11 Jul 2008	Plea receipt date		300.00									
						Decision	Guilty										
						Plea receipt date											
						Reference no. partner cashing											
	102090307002	1004001112185121	Isabelle Normandin		7 Mar 2009	Plea receipt date		300.00									
						Decision	Presumed guilty										
						Plea receipt date											
	102090419003	1004001112185154	Hugo Fréchette		17 Apr 2009	Decision	Guilty	300.00									
						Plea receipt date											
						Reference no. partner cashing											
40020	254100420003	1004001112241262	Kevin Dionne		14 Apr 2010	Plea receipt date		300.00									
						Decision	Presumed guilty										
						Plea receipt date											
	311100313016	1004001112172467	Maxime Ross		13 Mar 2010	Decision	Presumed guilty	300.00									
						Plea receipt date											
	311100613003	1004001112174992	Éric Marquis		28 May 2010	Reference no. partner cashing		300.00									
						Decision	Guilty										
						Plea receipt date											
	<b>Total: 25</b>	<b>Total: 26</b>	<b>Total: 0</b>	<b>Total: 26</b>													





**Commission for Environmental Cooperation**

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